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ORIGINAL ARTICLES.

TREATMENT OF ALCOHOLISM BY STRYCHNIN NITRATE HYPODERMATICALLY.¹

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I WISH to direct attention to the treatment of alcoholism, both chronic and acute, by the use of strychnin nitrate given hypodermatically.

I am aware that when a supposed specific for any disease is brought forward an involuntary smile of incredulity passes about; therefore, whatever my private opinion may be, I will avoid strong statements, relate the history of a few cases, and leave you to deduce your own conclusions.

The following cases occurred in my private practice, and the patients were influenced by no seductive surroundings of a sanitarium or hospital to exert a moral influence upon the cure. Whatever good was done was, therefore, wholly due to the drug employed.

CASE I was a saloon-keeper, thirty years of age, who had drunk heavily all his life. He came to me after a debauch in a sadly demoralized condition, saying that he was despondent all the time; he threatened to commit suicide, and about half the time did not know what he was doing. He was at the time in a semi-delirious and dazed condition, and said that he was dreaming frightful dreams night and day, had horrors all the time, a foolish feeling in his head, and no appetite. It was impossible for him to get out of bed in the morning on account of a "dead feeling" until he had taken enough whiskey to intoxicate, and he had to keep up this condition all day in order to attend to business. This had been habitual with him for years.

I began treatment by injecting nitrate of strychnin, $\frac{1}{20}$ gr., night and morning. I also gave capsicum, valerian, bromid, and sulphonal for the restlessness and nervous symptoms. The sulphonal was most efficient. On the second day I injected $\frac{1}{15}$ gr., and on the third day he said the sight of whiskey or brandy nauseated him, although he continued to drink two or three glasses of beer daily; he had taken no food for four days. On the third day of the treatment he took fish and soup, and slept well that night; he was not nervous or "shaky," but had "a foolish feeling" in his head; the gnawing at the epigastrium had disappeared; the man looked bright, his complexion was clear, his spirits good and

the despondency nearly gone. On the ninth day he could get up and eat at the usual hour without difficulty, the "dead feeling" having disappeared. He was taking five drinks of beer only a day. On the twelfth day I increased the dose to $\frac{1}{12}$ gr., and the man says he could not get enough to eat. On the eighteenth day he was taking from six to eight drinks of beer daily, but could not touch strong liquor. On the twenty-sixth day the injection was increased to $\frac{1}{10}$ gr., the patient continuing to improve in appearance. His eyes were bright, clear, and steady, and he exhibited enthusiasm, courage, spirit, and an interest in life, in marked contrast to the dull, dead, listless appearance of the first day. His slovenliness had given way to cleanliness and neatness. On the thirty-third day the injection was decreased to $\frac{1}{20}$ gr., and the dose was then decreased gradually for five days, down to nothing.

At the time of writing he still takes beer moderately, but no strong liquor; he gets up mornings and attends to business all day. His appearance indicates that he tells the truth. This result may be considered good for a saloon-keeper. The treatment did not stop his drinking entirely, but it regenerated him physically and mentally, and enabled him to attend to business like other men. The time of treatment was forty days, with two treatments daily; it is now eight months and twenty-three days since treatment was begun.

CASE II.—A female, twenty-five years of age, came to me with the following history: For two years she had drunk heavily every day and all day, and all kinds of drink; she says she cannot stop without being all undone, and she sleeps poorly. She has had delirium tremens once; she is slovenly about the house and about herself, neglecting household duties and her children. She has to keep well saturated with drink to avoid misery. The woman has the same foolish and uncertain feeling in the head as described in the first case, is very nervous, without appetite, the eyes bloodshot, the actions "boozy," and the conversation mauldin.

I began with $\frac{1}{20}$ gr. t. i. d. The woman took only one drink on the second day. I gave sulphonal nightly, with good effect upon the nervous symptoms. On the fourth day the appetite was good; she was less nervous, the head better, and there was no desire for drink at all. On the fifth day the appetite was still better. She took a drink of cider the night before as an experiment, but had to vomit immediately, and was sick all night, feeling badly in the morning; she still had a distaste for drink of all kinds. On the sixth day she took two glasses of beer. The injection was not increased. The appetite was not so good. On the ninth day the woman took two drinks of beer, but it tasted bitter, and she cared nothing for it. Her appearance has changed con-

¹ Read before the Onondaga County Medical Association, January 31, 1893.

siderably, the face not being so bloated, and the eyes being bright, clear, and calm. The home is kept tidy, and she takes an interest in household affairs. On the eleventh day she had taken no beer for two days, and had a distaste for it. The appetite was very good. On the fifteenth day she still was taking no beer and had no desire for drink. On the twenty-third day she was still abstaining, and without the least effort on her part. The injection was now reduced to $\frac{1}{6}$ gr. once a day. On the thirty-second day the appetite was poor and the patient listless; the injection was increased to $\frac{1}{5}$ gr., and gradually reduced during one week to nothing. Two months after this she began drinking to spite her husband. I gave one injection of $\frac{1}{5}$ gr. Since that time, for eight months up to the present time, she has abstained, and her appearance and actions and general spirit, tidiness, and thrift in household affairs go to show that she tells the truth.

The time of treatment was forty days, with two treatments a day.

CASE III was an unusually bright and highly intellectual person, forty years of age. For twenty years he had imbibed enormously and constantly of beer only, so that he was entirely unfit for any business. He had abandoned all hope, and decided to keep up drinking until it should finally kill him, and he thought this happy time would come in about one year. At the first visit he presented the usual deplorable picture of complete despair, with loss of nearly all the attributes belonging to human beings, and suffering untold agony for want of drink.

I began treatment with $\frac{1}{6}$ gr. t. i. d. On the third day the man said he had no desire for drink, and the mental agony had disappeared. He said he felt better than for two years, was beginning to feel hopeful, and "as he used to years ago when a boy." He has great exhaustion upon exertion, and his head still feels badly. I gave sulphonal, with good results. On the seventh day I increased the dose to $\frac{1}{7}$ gr., but it caused a flushing of the face and fulness of the head. I returned to $\frac{1}{6}$ gr. The patient is of an active disposition and nervous temperament, and seems to require less of the remedy. On the twenty-third day I reduced the dose to $\frac{1}{4}$ gr.; on the twenty-fourth day to $\frac{1}{6}$ gr.; on the twenty-eighth day to $\frac{1}{5}$ gr. The head-symptoms were still present. I then injected $\frac{1}{7}$ gr., thinking that the bad feeling in the head might be due to a too rapid decrease in the dose; but it augmented the bad feeling in the head, showing that it was rather due to the withdrawal of stimulants than to diminishing the dose. Sulphonal relieved all the bad symptoms of the head and nervous system. I concluded that he had had enough strychnin, and stopped treatment. Improvement began and continued. I have seen the man at intervals during the time since dismissal, and he is working steadily and looks and feels like another man, and says that he has no desire for drink. It is now seven months since treatment was begun.

The time of treatment was twenty-eight days.

CASE IV.—A male, aged forty-four, drinks some every day, and in addition has periodic debauches, mostly on beer; he requires whiskey every

morning. This patient had no desire to reform, but was induced to take the treatment by his wife, who was the greater sufferer. During the treatment he was passive, and had nothing to say, except that he had no desire to drink.

I began with $\frac{1}{7}$ gr. t. i. d. After four days he was absent thirteen days, drinking during this interval. At the end of the thirteen days I resumed treatment, giving $\frac{1}{7}$ gr. twice a day. This was continued for fourteen days and was followed by a rousing spree, and he began life again as before, and is still at it, evidently liking beer better than strychnin.

CASE V.—A male, aged forty-five, has periodic attacks of intemperance, lasting from one to two weeks, at intervals of from two to twelve months. He had become so irresponsible that his business had to be attended to by other members of the family.

I began with $\frac{1}{7}$ gr. t. i. d. On the third day he said that the sight of people drinking nauseated him, and that he had no desire for any kind of stimulants, nor has he the "gnawing" at the epigastrium. Before beginning treatment he said he could not eat or sleep; he now sleeps well, and cannot get enough to eat. He says he "feels like a newborn babe."

The treatment was continued for only two and a half weeks, twice a day, and the members of his family tell me that he is now always sober and attends to business. Four months have elapsed since the treatment was withheld.

CASE VI.—This man had been a chronic drinker for twenty years, is helpless, and getting worse; he used to abstain at times for one week, but now he cannot do so. I injected $\frac{1}{5}$ gr. t. i. d. On the second day he had no desire for drink in the morning, but did have in the afternoon. On the third day he had no desire whatever. He said he had pressure on the top of the head, and slept poorly. Sulphonal relieved these symptoms, but not completely. The patient is hungry all the time and feels like an entirely different man. He says that his feelings "take him back to the innocent days of his childhood." I continued with $\frac{1}{5}$ gr. up to the fifth day, when the dose was reduced to $\frac{1}{7}$ gr. On the seventh day he mixed a milk-punch for a sick friend, and continued to do so every day. He said that not only did he not care to drink the punch, but that the odor nauseated him. On the thirteenth day I reduced the dose to $\frac{1}{5}$ gr., and continued to reduce it until the eighteenth day, and then diminished by $\frac{1}{10}$ gr. down to nothing on the twenty-second day.

The time of treatment was twenty-two days. Three months and eleven days have elapsed since treatment has ceased.

CASE VII was a travelling agent, aged thirty-three. The peculiar characteristic of this case is that the patient had no appetite for drink whatever until he had begun to drink for some time for some other reason, such as despondency or depression on account of ill-luck or ill-health. However, whenever he begins he gradually proceeds to a prolonged debauch, drinking most immoderate quantities—as much as two quarts of whiskey in

twenty-four hours. The man has mitral insufficiency and very pronounced aortic regurgitation, which give him frequently considerable trouble. I saw him during a debauch, and began treatment immediately, giving him $\frac{1}{17}$ gr. every six hours, with an occasional drink to relieve the great agitation. After six treatments (during about thirty hours) the patient said that he had no desire for drink and that he had none of the bad feelings usual after a spree, and also, that the recovery was very much quicker. He says that his heart never behaved so well before.

Before giving any injection his pulse was fluttering and the heart was not compensating. Improvement began immediately upon giving the injections. The man said he had never taken any medicine that acted so well on his heart, and he had taken every heart-tonic known. I gave two injections a day of from $\frac{1}{25}$ gr. to $\frac{1}{12}$ gr. for three weeks. One week after stopping treatment he went on another hard spree, and the strychnin was used again, with the same good and quick result in the acute attack. This time I used $\frac{1}{16}$ gr. every four hours, and the recovery was one day more rapid than before. Upon questioning him, I learned that he had taken a drink immediately after each treatment during the three weeks, and had kept it up afterward. He says, also, that he had not a particle of desire for drink, and could as well have let it alone; but that he does not know why he took it. He evidently has no desire to abstain.

In drawing conclusions from the results obtained in these cases, we must make allowance for the fact that those that make up this class of people are notorious liars in the one respect of their habit, and their statements as to total or partial abstinence must be taken with a large grain of allowance, unless they are verified by other evidence, such as the appearance, actions, general environment, and the statements of disinterested persons, or of persons interested more in curing than in concealing. If any variation be made in the treatment, I would suggest using *larger doses at shorter intervals*, unless, as in one case reported, the patient be exceptionally sensitive to the drug.

It is to be noted that in every case, upon the *third day* there was a total absence of a desire for drink or *any* stimulant that might replace drink; and, a little later, a *distaste* for drink in some cases. It should also be noted that in these cases the patients were at places every day where drink could be freely had; and still the distaste continued.

Being associated with the two worst cases nearly all day, every day during treatment, I could have discovered any return to drink. The one fact of replacing the appetite of twenty years for drink by a distaste, or at least a lack of desire for drink, shows the remedy to possess a power seldom, if ever, met with in the treatment of any disease, by any remedy—a psychologic power lying wholly within the drug and independent of moral influences.

Since writing these notes an article has appeared in THE MEDICAL NEWS (January 28, 1893, p. 90), by H. E. Schmid, upon "Alcoholism," and emphasized later by another article, by J. J. Brownson (MEDICAL NEWS, February 11, 1893) in which he attributes the success of the Keeley cure largely to the moral influence of the surroundings, association of patients, forms, ceremonies, and statements made with a view to frighten the patient, and placing before him the promise of death if alcohol comes in contact with the drug with which he is saturated, upon leaving the institution. I do not credit this statement, and I think we have reason to believe that Keeley has in use a drug similar to, if not identical with, the nitrate of strychnin.

I may mention, by the way, that Mr. Keeley in his circular mentions the complete change that occurs on the third day, as in the foregoing cases.

Upon reviewing the results in these few cases, I think we may fairly conclude :

1. That we have in this drug a remedy that actually, for a period as yet undetermined, removes the desire for alcoholic stimulation in the chronic inebriate, and that *without the least effort on his part*.

2. A remedy that removes the distress and gnawing at the epigastrium, so common upon the withdrawal of alcohol.

3. A remedy that tones up the nervous system, allays the insomnia, the flighty and other bad feelings in the head, the mental disturbances, and the tremulous agitation and uncertainty of voluntary motions due to the withdrawal of stimulants.

4. A remedy that brings back the appetite and general physical vigor of the body.

5. A remedy that temporarily transforms a wholly demoralized creature into a man.

6. A remedy that is of great value in acute attacks of alcoholism.

7. Incidentally, a remedy that is an exceedingly good and safe heart-tonic.

8. More than all, a remedy that exerts a moral influence upon the patient, giving him what he had before wholly lost, to wit: Hope, enthusiasm, self-confidence, and courage, where before was despondency, abandonment, and despair; a steady, straightforward gaze, and a bright youthful expression of the eye, which replaces the shamefaced, sneaking, apologetic air of total depravity of the chronic inebriate.

9. We have in the nitrate of strychnin *not a remedy that will oblige a man to abstain from drink if he does not want to do so*, and such subjects do not deserve one. From the results obtained by the gold cure, the silver-ash cure, the Keeley cure, etc., we may conclude that we have a remedy that is as efficient as any of these, and much safer—a remedy,

moreover, that is not secret and can be used by men who know the action of drugs and can use them with discretion and safety to the patient.

There is no reason why the public, which places its life in our hands daily, should be obliged to offer up sacrifices upon the shrine of quackery, when men can be treated privately, safely, and efficiently by any family physician, and thus avoid publicity, danger, and expense.

Perhaps we have not a specific; probably not, but we are as near to it as the quacks are; and if such cases of doubtful, if not suspicious, death as the one which occurred here lately can be avoided, it is right that the public should, through us, know it and profit by it.

From a scientific standpoint, these few cases afford but scanty statistics from which to draw conclusions. But if, from a humane standpoint, as much good can be done in all cases as in these few, we have done much to better the condition of our fellow-man.

NOTE.—Since writing the foregoing, there has appeared in THE MEDICAL NEWS an article by C. F. Chapman, taken from the *Chicago Medical Recorder*, February, 1893, in which the basis of the Keeley remedies is said to be nitrate of strychnine.

THE EFFECT OF ATHLETICS IN THE PHILADELPHIA PREPARATORY SCHOOLS AS TO MENTAL AND MORAL CHARACTER.¹

BY A. H. P. LEUF, M.D.,
OF PHILADELPHIA.

In the consideration of any subject it is well to guard against misunderstanding by defining the meaning we place upon leading terms used in its discussion. It is therefore highly necessary that we should be agreed as to what we mean by athletics and by mental and moral character. I will give my definition of these terms, and ask you to accept them for the time, it being understood that my conclusions are based on the premises given.

The term athletics, in this paper, shall be considered as signifying competition in physical prowess. The term mental character I shall use synonymously with mental growth, and it will mean the evolution of mind from the simpler toward the more complex or most complex operations of the mind. The term moral character I shall use synonymously with moral growth and morality, and it will mean the degree of tendency toward the harmonious blending of egoism and altruism that leads toward absolute equitableness.

The terms of the problem tendered me for solution are absolute, whereas they can in reality be

only relative. The question would better have been: "Do athletics, as they at present seem to be conducted in our preparatory schools, conduce to mental and moral character?" It is in this form that I shall attempt a careful reply.

Through the courtesy of your Secretary, who furnished me with a list of the head-masters of thirty preparatory schools, I was enabled to communicate directly with those presumably most interested in the subject of this paper. A request was sent to all to forward to me an outline of the system of physical education prevailing at their respective schools.

Judging from what I have seen in several of our best preparatory schools, and from the information received directly in answer to my letters of inquiry, I should say that our preparatory schools now generally adopt some kind of physical exercise as a part of their weekly curriculum. In some it is systematically and compulsorily pursued between study hours as a part of the regular recitative work; in others it is purely recreative and voluntary during recess or after school in a gymnasium, or upon more or less suitable grounds provided for the purpose. The exercises, whether voluntary or not, are usually under the care of an instructor. In a number of the schools a specially qualified physician has been engaged to examine the scholars twice or thrice during the school session for the purpose of prescribing the most desirable special exercises and noting the results.

It has become the custom in even some of the preparatory schools to have a series of competitive athletic contests yearly between a number of schools forming a so-called "league." These contests embrace track and field sports, base-ball and foot-ball. That this is undesirable should be self-evident to any unbiased observer conversant with the strain entailed by the amount of physical work in a given time in children. When it is considered that the so-called training, generally a glaring misnomer, is taken in hand solely by those who desire to take part in the contests, and that their "training" consists in doing their utmost until compelled to stop from sheer exhaustion; and when it is also taken into account that the bodies of children are only in a developmental state, and likely to suffer serious and permanent damage from overwork, i.e., strain, it is at once evident that there is a large element of risk attached to the encouragement of these competitive exertions. This matter has been more fully considered by me in a paper read before the American Medical Association, at Newport, R. I., on June 5, 1889.¹ You will see from that

¹ Read by request before the Convention of Teachers in Philadelphia.

¹ See the Journal of the American Medical Association, April 5, 1890, p. 493, and the Archives of Pediatrics, September, 1889.

how important it is to carefully superintend the physical exercise of children.

The advantages of careful physical education are best summarized in another of my former papers, quoted in the one just mentioned, and reproduced here:

"1. The object is to develop the material body, and, with it, of necessity, the mind and morals.

"2. Like most potent agencies, it is much abused and far too little understood.

"3. It absolutely forbids smoking.

"4. It absolutely forbids the drinking of alcoholic or malt beverages.

"5. It insists upon the necessity of regularity in living, especially as regards time of sleeping, eating, exercise, and recreation.

"6. It enforces a good substantial dietary that will never be forgotten.

"7. It discountenances all kinds of vice.

"8. It is rigid in discipline without seeming so to those disciplined, and develops implicit and willing obedience to advisers.

"9. It has a marked effect upon the growth of the body and mind.

"10. It develops to a high degree the valuable qualities of hope, confidence, courage, deference, obedience where proper, independence, perseverance, ambition, temperance, and determination.

"11. It is, in short, the most valuable preparation of the young for the cares and trials of adult life, and aids young and old alike to ward off disease and mitigate its effects."

I am pleased to report to you that the head-masters who have kindly replied to my queries have generally a correct idea as to what should be done in the physical education of their charges. But soon one is confronted with the "fad," or fashion of the day, variously subscribed to by parents and guardians, each insisting upon his or her own way, until, between the multiplicity of expressed injunctions by them, the opinions of the master or principal, and the question of cost and profit, the heads of schools must become bewildered as to the best course to follow, when all things are considered. The result generally is a compromise, consisting of the best that can be offered for the small additional compensation contributed by the parents. It is a deplorable fact that even wealthy people are prone to begrudge a fair monetary contribution toward the physical care of their children. The inevitable consequence is that physical education in our preparatory schools is not what it should be, and what the head-masters would like it to be.

I have heard of preparatory schools adopting a gymnasium course simply as a business shift to meet a demand. Even that is a healthy sign, though we expect an educational establishment, however modest, to lead the public instead of being led. But though a course in physical exercise is estab-

lished on what may be called purely "business principles," the cost is considerable and the apparatus and space to place them in are expensive. This purely business reason may be called an illegitimate one. The legitimate reason for establishing physical education in preparatory schools is because it is an educational necessity. It divides itself into the development of the body and of the mind, and incidentally of character, or moral character, if you please.

That proper physical exercise develops the body is so self-evident that it needs no special consideration. It favorably affects every structure and function of the body by increasing its activity and nutrition. And from this simple statement it follows, of necessity, that the activity of the brain is increased by directing the various complex muscular movements for different periods, thus necessitating and causing an increased flow of blood through the cerebral bloodvessels, and a consequent better nutrition of the organ of the mind itself. Cerebral localization, the outcome of the older and extravagant phrenology, has shown that the many faculties of the mind are more or less distinctly mental functions having their seat in rather well-defined parts of the brain. Now, those faculties which are specially exercised upon the playground or in the gymnasium are not the same as those which are brought into play in the study-room, though there are many general faculties, as I may call them, which are used in both instances. Extended memory and computation may be instanced as being special to the latter requirements, and coördination of muscular movement to the former. Energy and perseverance are qualities of mind that are general and common to both.

There are two kinds of facts that I wish to point out as natural corollaries to the foregoing statement. One is, that while a part of the mind is exercised in physical exertion another part is at rest that is exercised during mental exertion in the school-room, and *vice versa*. By a judicious combination of the two there follows that alternating rest and activity that is so conducive to growth and development, comparable to the beneficent diurnal waking and sleeping. The other fact that I wish to bring out is that such qualities as energy and perseverance, that are in constant use during either physical or mental activity, are likely to be overused if the mind and body are kept constantly at work, though alternating. When these common qualities of mind are not too much used there is general beneficence, but when they are overtaxed by excessive use of either body or mind there is general disaster, greater or less, depending upon the amount of overtaxation and the period required for recovery.

At no time of life is it possible for anyone to do his utmost in physical work, be the period long or short, without sacrificing ability to do the best mental work during that time and for varying periods thereafter. It has, of course, been demonstrated upon numerous occasions that college athletes, endowed with superior physical power and nervous energy, have excelled both in athletics and in their studies. I have met with several of these after they had left college. Some of them came to me as patients. The result was the same in all. They had earned a national, or even international, reputation as athletes, had been leaders of their graduating classes in college, but had so sapped their nervous or vital energies in the three or four years' excessive strain, that they had not enough left to ward off the common ailments against which they at one time so confidently considered themselves proof; they had lost their ambition, and they were sick and could not get well; they were getting worse. What was the trouble? They had the great American disease called neurasthenia or nervous exhaustion. Their prospects were not very rosy. Almost their only chance of recovery was several years of comparative ease and change of life. This was utterly impossible except to one. Thus end the brilliant prospects of the renowned college athlete!

The objection to athletics, as I have defined the word, is that they are competitive, that the competition grows, that it breeds a spirit of professionalism, a desire at all hazards and at any price to achieve a victory. Present comforts, future health, studies, and mental development are cast to the winds in the one idea—rush for glory. Too many parents unwisely encourage this fetish-worship, frequently at a dire cost. This competitive spirit saps the energies and leaves little for study. The strain can only be borne by the few, and there soon results such a high standard of excellence that only the best endowed naturally attempt the exercises, and the great many sit idly by and watch the competition, and these in their turn sap their energies with a useless excitement accompanied by no equivalent gain in physical development.

The ideal physical education, viewed from a pedagogic standpoint, is to combine physical and mental exercise so as to entail no strain upon the nervous energy, perseverance, and moral character. To accomplish this result there should be eliminated from physical exercise all undue or excessive excitement. In other words, physical exercise, of whatever kind, to be conducive to the best welfare of the individual, should be recreative rather than competitive, a pleasure rather than an unwelcome duty, a healthy desire that knows satiation within safe limits rather than an unreasonable ardor that knows no safe bounds.

I have found certain *a priori* conclusions of mine verified in my experience at the University of Pennsylvania, where it was the constant experience that the classes did their poorest work in the recitation hours immediately succeeding exercise in the gymnasium. Men in training are likely to neglect their studies unless they have sufficient incentive to regard the warnings of Nature. I shall eagerly await the discussion of this paper to learn from some of the learned head-masters here this evening about the standing of their scholars while in training for a contest.¹

There can be no doubt that the increased circulation of blood through the body caused by proper physical exercise, especially that which is taught in the schools, results in increased nourishment of the brain, and with it increased mental character. Moreover, the varied and complex acts constituting athletic work cause a decided improvement in the rapidity of the perceptions, judgment, and execution.

The moral improvement is just as decided. The rules governing all games are arranged with the object of excluding anything unfair. Physical education, especially when combined with games, is a moral educator of great force, particularly because its results are natural and spontaneous. The increased manliness and fairness shown by boys after playing games for a few weeks is readily seen by all who watch them. In professional base-ball the finger of suspicion cannot justly be pointed at a single member of the profession. The claim that any of the games of the larger leagues are not honestly and earnestly contested would be declared absurd by the well-informed patrons of the national game.

I desire to say that I know of no moral educator so spontaneous as proper physical education. Its precepts must be followed if disagreeable results are to be avoided. Its active votaries are ever overcoming obstacles that at first seem insurmountable. They learn to go at something hard to do with a confidence that becomes habitual, and serves many a valuable turn in after-life in the battles against the world. That this moral effect is to be observed among all the school-children that take to games and exercises in the right way has probably been observed by all present. That there are brutish natures that prove exceptions does not, of course, invalidate this statement.

My conclusions from a study of the facts are that every preparatory school should discourage competitive athletics, though I should deem it a mistake

¹ All who spoke upon the subject agreed that training for contests caused a falling off in the scholarship-standing of those in training, while the same was true of nearly all, though to a lesser extent, upon the eve of an important contest.

to prohibit them, because it cannot be done if the pupils are unwilling, and it is not required if they follow the advice given.

There should be a physical examination made at least twice a year by a specially qualified physician for the purpose of prescribing necessary exercises to correct defective physical development and mal-nutrition of the body or of any of its parts. An experienced instructor should be engaged to help the pupils carry out their prescribed work, as no good, and sometimes harm, results from exercises wrongly done or neglected.

Each boy should receive a graphically arranged chart, some of which I have passed around, showing his condition at the time of examination. He can occasionally measure and test himself, and note how he is improving. It is interesting, and makes him more attentive to lectures or lessons on anatomy and physiology, creating a desire for this kind of knowledge.

A gymnasium and a playground are a great desideratum, in fact are indispensable requisites, if the highest aim of pedagogics is to be achieved. If only one is obtainable, I declare in favor of a playground for use all the year round. If neither is obtainable, judicious calisthenic class exercises by the instructors, themselves properly taught, can do a great deal of good.

In reply to the query that forms the title to these remarks, I would say that—

Athletics, as at present conducted in our preparatory schools, do conduce to mental and moral character in varying proportions, depending upon whether the system in vogue approaches the requirements indicated or not; and that in all of them, as well as in our largest colleges and all intermediate educational institutions, there is opportunity for very much improvement in the plan of physical education; and that there is no method of physical education anywhere in vogue that has not serious drawbacks, some of them overbalancing the good sought to be accomplished.

2353 N. SEVENTEENTH ST.

THE ETIOLOGY OF CARCINOMA.¹

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CARCINOMA has baffled the medical skill of all ages. It is one of the most troublesome, yet one of the most common of diseases. Without discrimination it affects the young and the old. Moreover, it is a peculiar disease, and, on account of its ter-

rible nature, has been studied by scientific men as far back as medical literature dates.

It is a strange thing that while medical science has advanced so rapidly in many respects, our knowledge of this disease has remained at a standstill. The physician is still appalled at its unchecked growth, the surgeon is still exasperated that his eradications are without effect, and, despite all we know or do, it pursues a steady course of painful return, extended growth, and lingering death.

For many years carcinoma and tuberculosis were not disassociated in the minds of medical men. This is one reason that the experimenters of early date frequently reported successful inoculation-experiments. It remained for Virchow, and later Koch, to differentiate between these two diseases. Subsequently carcinoma became a disease subjected to careful investigation, but, notwithstanding the many who studied it, its etiology remains profoundly obscure.

When bacteriology first became a science, carcinoma was at once attacked by a host of scientists. The discoveries of Scheuerlen, Schill, and Kubasoff remain with us to day as monuments of scientific error. It was not long after the bacteriologic failures that Malassez, Albaran, and Darier in France, and Thoma in Russia, began to investigate carcinoma with a view to finding other organisms than bacteria whose presence might cause it, being led to this by the discovery of "psorosperms," *i. e.*, coccidia-like bodies, in the cells in Paget's disease. Simple observation of these bodies found in the cells of Paget's disease and subsequently in carcinoma was not sufficient for proof, and inoculation-experiments became frequent at this time; fragments of the carcinomatous tissue were placed beneath the skin of animals, whole tumors were introduced into the abdominal cavities of animals, suspensions of the tumor-cells in the blood-serum, physiologic salt-solution, and bouillon were injected into the circulation of animals and the results carefully noted. I have been able to collect the results of almost five hundred of these experiments, with scarcely one reported successful. Klebs has probably made one hundred experiments, and has met with signal failure. Hanau has been successful three times in experimenting on rats. In all of his three experiments squamous epithelioma was brought about.

Still there is this peculiarity about the inoculation of carcinoma—that, while it is seemingly not inoculable, or only exceptionally inoculable, from one animal to another animal of the same kind, it is distinctly inoculable from one organ to another of the same animal. There are many cases reported in which epithelioma of the lower lip has invaded the upper lip, in which the mammary gland involved the

¹ Read before the Pathological Society, January 25, 1894.

arm when kept in contact with it, in which a carcinomatous uterus affected a contiguous portion of the vagina, etc. There is a case reported of a man with a burn on his arm, who was infected by squamous epithelioma of the face from which he suffered, some of the cells from the facial disease growing well upon the hand and causing the disease there. These cases cannot be correctly called cases of inoculation, but rather cases of modified metastasis. Of course, all these cases carry with them the suggestion of infectiousness in carcinoma and support the parasitic view of the disease.

Haviland has made a special research upon the miasmatic conditions relative to carcinoma, and has found that the disease seems to be more prevalent in those localities in which there is much moisture, *i.e.*, where the lands are marshy or remain inundated for a great length of time.

Dr. Ackerley speaks of a certain house situated on low ground, the cellars of which, being below the level of a small stream about twenty yards away, were pretty constantly inundated. In this house during thirteen years four cases of carcinoma are said to have occurred:

I. A lady who had occupied the house for many years died of carcinoma of the breast and, it is said, also of the womb.

II. The next occupant, a lady, lived seven years in the house, then died of carcinoma of the breast.

III. Two years later the husband of this woman died of carcinoma of the larynx.

IV. The second wife of this man has suffered amputation of the breast for carcinoma, but still lives.

These things may be coincidences, as has been pointed out, but they may mean something more. At present the literature upon this subject is immense. The whole world seems to have become satisfied that carcinoma is a specific disease and is in search of the parasite.

Those who have read of the parasites of carcinoma must have been struck with the fact that the numerous observers find very different things. One asserts that the carcinomatous organism is a protozoan of the coccidia group; another that it is a gregarine; a third that it is an ameba. One can read paper after paper bearing such eminent names as Podwysoszki, Sawtschenko, Soudakewitch, Ruffer, Walker, Metschnikoff, Delépine, Korotneff, Foà, and Virchow, all more or less at variance.

During the last two years it has been my pleasure to make a careful study of such carcinomata as came into my hands, for the purpose of ascertaining whether or not the bodies described were sufficiently characteristic to be called parasitic or not.

My experience in connection with this subject has not been very great. I have been able to get

but fifty or sixty carcinomata in a more or less well preserved state. Here let me observe that too much stress has been laid upon the methods of preservation and methods of staining. Ruffer and Walker tell us that the organisms cannot be seen well except in specimens hardened in osmic acid or bichlorid of mercury; others, however, find that they show in ordinary alcohol-hardened tissues.

The same gentlemen see them best when Biondi's stain is used. Soudakewitch prefers hematoxylin and eosin. It makes little difference how one stains; if the thing is there it will be seen. However, the more careful the manipulation the better the result, and, of course, the better the tissue is preserved the more clear the final picture will be.

I have studied squamous epithelioma, cylindric epithelioma of the stomach and intestine, carcinoma of the mamma, and of the bladder and of the uterus, and have found pretty much the same parasite-like bodies in all of them.

The forms of parasites described are easily separated into (1) coccidia, (2) gregarinæ, and (3) sporozoa.

The form first described was thought to be a coccidium. A coccidium is an intra-cellular parasite characterized by the presence of a distinct, generally double, capsule. This form of parasite was thought to be present in carcinoma, partly because similar bodies were found, and partly because of the homology thought to exist between carcinoma and the disease of the rabbit known as *coccidioides*. These tumors from a rabbit's liver, when examined under the microscope, show an irregular, atypical epithelial growth, described by some as a carcinomatous growth—not carcinoma, but that which has been described as malignant adenoma.

From the best authorities that I can obtain on rabbit's liver I find that these tumors are what we call proliferated cysts, or adeno-cystoma papilliferum. The parasites live in the epithelial cells of the bile-ducts, and set up a chronic catarrh, with polyposis. I do not think there have been any true coccidia found by any authority in the cells of carcinoma. I have looked over the literature very carefully, and cannot find proper description of them.

The next form of microorganism is the gregarine. This is an elongate, unencapsulated form with a nucleus situated at the enlarged extremity, and in its mature condition appearing much like a tadpole. It has been elaborately described by Korotneff, but I have been unable to find any such organism. Adamkewicz, who has written a number of articles on the poisonous nature of carcinoma, says that the carcinoma cells are neither epithelial cells nor derivatives of epithelial cells. Although he does not say so in so many words, he would regard the car-

carcino-cells themselves as parasitic cells. According to this observer, they arise from very small granules, which develop into round cells, usually regarded as an inflammatory infiltration, and these in turn develop into the fully developed carcinoma-cells; and, moreover, he finds that these cells produce a poisonous substance, *cancroin*, which ultimately checks their growth.

Pfeiffer tells us that the parasite of carcinoma is neither a coccidian nor a gregarine, but belongs to a group of the microsporidia, which are described as amebasporidia.

Lastly come the views of observers who see the majority of bodies described by others, yet who do not find them to be either coccidia, gregarinæ, or sporozoa, but find them to represent various phagocytic and degenerative processes, and who conclude that to call these bodies parasites because they look like parasites is ridiculous. We must base our knowledge in this matter on some stronger fact than that of resemblance, before we can declare these bodies to be parasites. We must be able to cultivate them, or at least to make out some developmental stages of these microorganisms, before we can pronounce them alive, and then must cause the production of carcinoma by inoculation before pronouncing them specific.

Ruffer and Walker say they can see these parasites divide from 2 to 4, 4 to 8, and 3 to 16, and so on. This is evidence of a parasitic nature, but I have not observed such changes in the bodies that I have studied.

The results of my experiments show the presence in carcinomata of bodies that cannot be differentiated from parasites by their appearance alone. No one has been able to cultivate these cells outside of the body as Delépine has done the coccidia, or to produce carcinoma by inoculation of tissue containing them, or to carry out any of those laws postulated by Koch which give conclusive evidence of specificity.

I said a moment ago that there were some bodies in carcinoma that look like parasitic organisms. A great majority of carcinomata occur upon exposed surfaces, the lips, mammary gland, stomach, uterus, etc. All of these organs come in contact with the air, water, clothing, etc., and can receive in this way the spores of parasites and even the parasites themselves. Why could not these organisms, as well as bacteria, which are constantly, but accidentally, present, be found there? It would seem as if some of these bodies might be parasites, and yet have nothing to do with the etiology of the disease.

The most forcible argument that I can bring to bear upon the subject is the one based upon a study of the secondary growths. Carcinoma is a disease that gives rise to metastasis. It has been

argued that this is a strong proof of its micro-organismal nature. Tuberculosis spreads from place to place by the distribution of its bacilli through the blood and lymphatics; why should not the spread of carcinoma be due to similar distribution of its parasites? On superficial observation this seems to be true, but when examined carefully nothing is more fallacious. Tuberculosis is a simple inflammatory process, set up wherever its cause is operative. Carcinoma never presents a similar appearance, but always consists of an overgrowth of epithelial cells. As there are no epithelial cells in lymphatic glands to be stimulated to overgrowth by parasites conveyed there, a similar explanation of its production becomes impossible. But it may be argued that the carcinoma-parasites are conveyed to the lymphatics enveloped in the epithelial cells, which they subsequently stimulate to proliferation. This may be true; but I think the greatest proof of its unlikelihood is that the epithelium which is accidentally transported to a new environment retains its normal characteristics, even to the formation of quite typical glandular acini. Examination of the secondary carcinomata which grow in the omentum or in the lymphatic glands shows that quite numerous acini, almost typical of the parent-tissue, occur in the early stages of development. My explanation of this is that these cells have been accustomed to divide on a single plane. When they gain entrance into other tissues they retain this tendency, and, continually dividing on the same plane, line the cavities of the tissue with epithelium. This appearance remains for a certain length of time; then the tendency to proliferation continues and the cells multiply so rapidly as to entirely fill up the space. I cannot conceive of a cell which is the host of a parasite behaving in this manner.

It is a well-known fact that the tissue-changes are unusually active, and that epithelium seems to have a tendency to overgrow in old age. Old people are subject to brown patches upon the skin, which occasionally degenerate into epitheliomata. Warts on the hands of old people sometimes take on this change; so that a tendency to proliferation of epithelium is normal in old age. Carcinoma is most common in old age.

Why should not carcinoma simply represent an abnormal increase of this normal process and be the resultant of varied coöperating forces?

Probably the most common carcinoma is that of the mamma. This gland is one accustomed to proliferation of its epithelium and receiving constant reflex stimulation during menstruation, pregnancy, lactation, and the menopause. In such a tissue it is easy to conceive of a loss of proliferative inhibition in old age, increased proliferative stimulation from traumatism, by reflex action, even by bacteria and

protozoa accidentally present, producing the atypical growth called carcinoma, without having any one of these causes properly denominated as specific.

Although much truth appears to surround the parasitic theory, it is at present not proved, and the data that have been adduced are insufficient to establish parasitism in carcinoma.

CLINICAL LECTURES.

SPINAL HEMORRHAGE—EPIPLOCELE—RESECTION OF LEG FOR COMPOUND FRACTURE OF TIBIA, UNUNITED AFTER A MONTH.

Delivered at the Buffalo General Hospital.

BY ROSWELL PARK, A.M., M.D.,
PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO.

SPINAL HEMORRHAGE.

THIS patient is a Pole, from whom we have with some difficulty obtained the following account: On Friday, while working underneath a large dredging machine, the heavy iron bucket, loaded with dirt, came down on the middle of his back. He became helpless at once, and when seen by the ambulance-surgeon he could not move the legs. In the evening the house-surgeon found an alteration in the contour of the spinous processes, there being a gap at the level of the ninth or tenth dorsal vertebra. There was also extensive bruising; a large hematoma or blood-extravasation having formed on the right side. There was apparently retention of urine, and the man was catheterized. On receiving this report by telephone I decided that it was not necessary to see him that night, and the next morning he had so far recovered that there was fair sensation in the legs and he could move them a little. He has continued to improve, although nothing has been done except to catheterize him thrice daily and to give him ordinary care in bed.

The diagnosis is of interest, as upon it depends the nature of the treatment. The ecchymosis requires no special treatment beyond cold applications. The displacement of bone may mean simply a chipping-off of a spinous process—a trivial injury—or it may mean a fracture of the spinal column proper, which is serious because it almost necessarily involves a disturbance of the contents of the spinal canal. Fracture of the spine is serious in proportion not to the extent of the bony injury, but to the amount of injury inflicted on the spinal cord. An injury to the back may, however, cause compression of the cord, without any alteration in the lumen of the bony tube on account of hemorrhage. Blood may be poured into the spinal canal from different sources. It may leak through from a ruptured vessel outside the spinal canal; it may come from the arteries or veins of the membranes of the cord; the vessels of the cord itself, or of the pia, may pour out blood into the substance of the cord, and finally the clot may be in the central canal of the cord when that is present. Hemorrhage, no matter how severe, requires an appreciable amount of time before pressure-symptoms develop. Dislocation, from fracture or otherwise, is almost instantaneous in producing paraplegia; hence, if an injury is followed imme-

dately by a genuine paralysis, not the mere disability from stunning, the inference is that there is depression of bone. If, however, paralysis comes on within a few minutes or hours, the inference is that the compression is due to more or less rapid hemorrhage. Paraplegia coming on a week or more after an injury is due ordinarily to one of two things—the pressure of pus or a disorganization of cord-tissue following inflammatory changes. In this case we evidently have to deal with a paralysis produced immediately or very soon after an injury, and which has passed away quite rapidly, leaving only a trifling anesthesia and disturbance of function. To-day you see that the patient lifts his leg and moves it about quite freely, though he groans as if it hurt him. This is a marked improvement since Saturday. Trying him with a pin, you see that his sensibility is fair, though not exquisite. It is well also to test the muscle-sense by making gentle but forcible deep pressure. It is impossible to tell whether his lack of response is due to a phlegmatic disposition or to anesthesia. On the whole, sensation is good except in the genitals. The man does not seem to feel the introduction of a catheter or sound. You can see the ecchymosis of the back and note that he flinches when pressure is made over the injured spot.

My surmise is that he has extensive bruising, which accounts in part for the disinclination to move the leg; because any movements of the thigh involve tension on the glutei, which have suffered somewhat. I cannot believe that there has been depression of the spinal arch. In this large and complex group of muscles to which, collectively, we give the name erector spinae, there is an extensive contused wound. I presume that there was a small hemorrhage somewhere in the spinal canal, for in a large number of cases of bruising alone I have failed to note even temporary paraplegia. However, the supposition of hemorrhage is a mere conjecture which I cannot prove to you. The symptoms are not very complete, nor are the facts upon which an accurate diagnosis would be based definitely known. Two or three of your number have expressed the hope that this would be a case for operation, but you will understand the futility of interfering when there is no indication that the bodies of the vertebrae are displaced.

In the catheterization, which constitutes the principal treatment, care must be taken not to set up a septic cystitis, to which paraplegic subjects are particularly prone. The man is eating heartily, and we must take care to have his bowels move every day. If there were any evidence of atrophy of the limbs we should have to stimulate the nutrition of the muscles by the faradic current and massage. Here, however, the indication is to let him alone as much as possible so as to allow the bruise to heal. He is turned from his back occasionally, so as to make sure that no bedsores are forming.

EPIPLOCELE.

This patient is a lad, eighteen or nineteen years old, who tells me that about three years ago he noticed a slight tumor within the scrotum, more on the right side, which seemed at first to be closely connected with the testicle, but which later separated from it and feels like an extra testis. It is growing gradually and is now as large as a hen's egg. Two questions present themselves: first, what is it? and secondly, what shall we

do for it? I prefer to take up the latter question first. Any neoplasm which grows and gives rise to trouble, I hold, should be removed, and the earlier the better. In regard to diagnosis, among the ordinary conditions with which we have to deal in this location are disease of the testicle itself, hernia, hydrocele of the cord, other tumors of the cord, of which lipomata are the most common. Two or three weeks ago I had occasion to operate on a man for inguinal hernia of the left side, and a small lipoma of the spermatic cord of the right side. This mass seems free from all signs of inflammation, and there is no history of traumatism. There is neither family nor personal history nor any objective manifestation of tuberculosis, and we can leave that out of consideration. Syphilis likewise can be excluded. The tumor is of about the same size and feeling as the testicle. On coughing, a certain amount of impulse is communicated to the mass, but not to the same degree as would be expected in the case of hernia. With the efforts at retching under the anesthetic more of the same impulse is communicated. This mass, which has gradually enlarged and descended, which is free from the testicle, and which is pushed down with the abdominal contents in coughing and retching, I take to be a hernia. Its solid consistence and the absence of tympany lead me to think that it is an epiplocele, that is, a hernia consisting of omentum. The neck of the sac is probably small, and the slight impulse on ordinary coughing is due to the firmness with which the mass is held in place.

The groin and scrotum are shaved and disinfected, and an incision is made obliquely over the course of the spermatic cord. In cutting down on the sac I find a band of muscle-tissue which represents the cremaster. A little serum flows out under pressure. On opening this sac you see a large mass of omentum. This could be put back into the abdomen, but I prefer to ligate it and cut away the redundant portion. It is always well to be extra cautious not to include in the ligature a small loop of intestine which sometimes projects just inside the neck of the sac of an epiplocele. This would be a fatal mistake if not rectified. The cat-gut ligature which I have applied here certainly includes nothing but omentum, and I will cut away the mass down almost to the thread. I next dissect off the remains of the sac from the omentum and spermatic cord. The latter is much more firmly adherent than usual. My earlier operations for the radical cure of hernia involved splitting up nearly the entire inguinal canal. In this operation, however, I design to follow a modified Kocher's method. Part of the inguinal canal is left unopened. Forceps are pushed down through the canal, brought out through the external ring where the hernia came out, so as to catch the sac and pull it up through the canal, and twist it into a mass at the level of the internal ring. Here it is sewed down to make a plug of tissue at this point. I twist it so that the twist will extend to the internal ring, and I shall attempt to destroy it as a sac, so that the place which knew it as a sac shall know it as such no more.

UNUNITED FRACTURE OF TIBIA.

This case is one of non-union following compound fracture of the tibia. It was seen by Dr. ——, a month

ago, at the time of the injury. He found between the larger upper and lower fragments a small pyramidal fragment held in place by a periosteal hinge. Very properly he decided to try to save the leg in its entirety, and, accordingly, he wired the two larger fragments together with a double ligature passed through drill-holes, while a third wire was wrapped about the intermediate fragment. Every opportunity was given for the uniting of the pieces, but the vascular connection has proved insufficient. The middle fragment is now simply so much dead bone, which is not only useless, but a menace to the vitality of adjacent structures. It must certainly be removed. Two lines of treatment are open to us. We may amputate the limb, as was formerly done in almost every case of compound fracture, to prevent the septic trouble which almost immediately set in before asepsis was known; or we may resect the bones of the leg "in continuity." The patient will not listen to the suggestion of amputation; nor do I advise it, for resection offers the chance of a useful though shortened limb.

The limb is scrubbed with green soap, and then with corn-meal, and is irrigated with a bichlorid solution. The Esmarch bandage is applied to prevent hemorrhage. For the sake of convenience I shall dissect down upon the fibula first, cutting between the muscular bundles rather than through them. Wyeth's excising instrument is used, metallic retractors preventing the saw from cutting anything but bone. The second division of the fibula I will not make until the fragment of tibia is removed, so that I may know just how much of the fibula to cut away. You see that the intermediate piece of the tibia is irregularly pyramidal, one line of fracture being nearly transverse, the other oblique, and about four centimeters long. An assistant holds the leg firmly while the rough ends of the remaining portions of the tibia are sawed off smoothly with a chain-saw. As a result of the inflammatory reaction from the injury, the bone is very much sclerosed, and, therefore, it comes away with difficulty. The bones were fastened with wire, and a good result was finally secured.

THE INCH-AND-A-HALF INCISION AND WEEK-AND-A-HALF CONFINEMENT IN APPENDICITIS.

A Clinical Lecture at the New York Post-Graduate Medical School, February 24, 1894.

BY ROBERT T. MORRIS, M.D.,
OF NEW YORK.

GENTLEMEN: Three years ago this man suddenly awoke in the night with acute pain in the *left* side of the abdomen. He had bilious vomiting from then until the following noon, when the acute symptoms subsided, leaving general abdominal soreness, which lasted for four days. At the end of that time he got out of bed and resumed his work, feeling perfectly well. During the following year he had two similar attacks. One year ago the most severe attack occurred, and at that time he was obliged to remain in bed for three weeks. The diagnosis of appendicitis with abscess was made at that time, and the pain and tenderness became localized in the right inguinal region. The reason why the pain is felt anywhere in the abdomen excepting at the appendix

is probably because of the wide distribution of the sympathetic plexus, which supplies the appendix, and because the latter rudimentary structure, of low vitality, does not respond as quickly to irritation as do the other parts of the bowel. This man at present is quite well, but his physician has learned that appendicitis is an infectious exudative inflammation which does not disappear with disappearance of the symptoms, and as a personal friend of the patient he does not wish to witness the suffering incident to another exacerbation of the inflammation. I shall attempt to remove the appendix through an incision in the abdominal wall one inch and a half in length. This operation was not originally devised for cases like the one before us. I intended it for cases in the early stages of the first attack, before the formation of adhesions or pus, and for the purpose of developing an operation simple in itself, which would be dreaded less than a single day of suffering from appendicitis. Gradually, however, one finds himself becoming more expert, so that after a little one will readily remove through the short incision infected appendices that are firmly imbedded in adhesions, and even in patients who are decidedly stout. In cases with pus, or with masses of infected new peritoneal exudate, a longer incision will be necessary. The advantages of the inch-and-a-half incision are several. Scars are unsightly to anyone of artistic taste, and the shorter the incision the shorter the scar. Time spent unnecessarily in bed is time wasted, unless one can utilize such an opportunity for reading. The general disturbance caused by an incision varies in proportion to the size of the wound. An incision one inch and a half long causes very little disturbance, and it confines the patient to his room for only a week and a half. An incision two inches long will confine the patient to his room for two weeks, and an incision three or four inches long will require nearly three weeks for good, firm union of divided tissues.

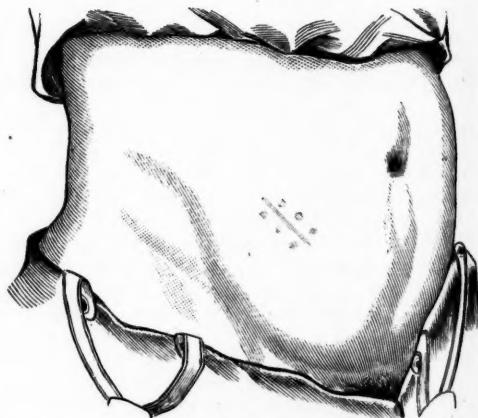
A line one inch and a half in length is now measured off on this patient's abdomen, in a direction that follows the trend of the external oblique aponeurosis, and at a point in the linea semilunaris which is over the cecum. As soon as the peritoneum is cut I insert a loop of catgut through the transversalis and internal oblique aponeuroses at the cephalad angle of the wound, to serve as a guy-line for pulling up these structures when the wound is ready for suturing. The cut margins of the two deeper aponeuroses are difficult to capture unless we have such a guide, because their muscles pull them far away while we are at work with the appendix.

The colon you all recognize at a glance, because of its longitudinal muscular ribbons, all of which "lead to Rome." We cannot possibly fail to find the appendix if any one of these ribbons is followed; but in order to follow it in the right direction, I determine the direction in which the bowel runs by exciting reversed peristalsis with a little pinch of salt placed upon the colon.

The cecum is drawn up through the wound, but adhesions prevent withdrawal of the appendix. One finger introduced into the abdominal cavity separates the adhering mass from parietal peritoneum and from the mesentery of the ileum.

I would not advise anyone to do this with his first cases. It is better to work by sight until the fingers are trained. Now you all see the appendix, which is covered

with adhesions like a spider's-web about a slug, binding it firmly to the cecum. The appendix is peeled out with the handle of a scalpel. Scissors are used for snipping through the peritoneal and muscular coats close to the cecum, and a strand of finest eye-silk is employed to ligate the tube of mucosa still uncut. This leaves the tiniest of stumps, with the tiniest of ligatures, when the appendix is cut away. Three Lambert sutures bury this stump deeply, so that peritoneal adhesions can wall it in securely in a few hours. You observed the result of leaving the stump of an appendix unburied, in a case upon which I operated before the class last Saturday. In that case the infected stump had caused an inguinal abscess and extremely tough adhesions, although the adhesions may have been due to the employment of chemical antiseptics within the peritoneal cavity. Chemical antiseptics and plain water injure the serosa, and adhesions result; but normal saline solution which we use here does not damage the peritoneum. The large ragged-looking portion of cecum that was involved in adhesions in this case to-day is now covered thickly with aristol, and after waiting a full minute to allow a lymph-coagulum to form with part of the aristol, the surplus powder is blown away. Aristol used in this way prevents reunion of adhesions. It is one of the most practical of resources, but one that I have some difficulty in persuading surgeons to adopt. I have separated old adhesions a great many times for former patients whose peritoneal surfaces had been injured by the routine technique of the day, and have relieved them completely with the aristol film.



The inch-and-a-half incision appears a little wider than it should because of blurring in the photograph.

In closing this wound an assistant pulls on the guy-line, and the cut margins of peritoneum, transversalis fascia, transversalis, and internal oblique aponeurosis appear in plain sight so that they can be accurately sutured with fine catgut. If we did not do such painstaking work here the patient would not be ready to leave his room at the end of a week and a half. The cut margins of the external oblique aponeurosis are approximated with two interrupted catgut sutures, and last of all we apply the prettiest resource of all. This consists in putting the skin-wound upon the stretch with two

small hook retractors so that skin-margins are adjusted with precision, and united with a continuous suture of the finest catgut. Such a scar is hardly to be seen after the wound is healed. One of the men in our audience you saw me operate upon ten days ago for the removal of a gangrenous appendix. I will ask him to kindly step down into the amphitheater and remove his clothing so that you can see the scar. If it were not for a slight redness which has not quite disappeared, the scar-line would not be visible ten feet away; and yet a week and a half ago some of the members of the class asked me after the operation if the patient could live. They were newly-arrived members who had not seen the inch-and-a-half incision. Two hours from now I shall be engaged in an argument with several physicians who have not been present at any of these operations, and they will explain by apparently clear reasoning that the inch-and-a-half incision is impracticable in appendicitis cases.

CLINICAL MEMORANDA.

LARGE SUPPURATING CYST OF THE PANCREAS; PANCREATOTOMY; RECOVERY.

By WILLIAM W. ASHHURST, M.D.,
OF CHIHUAHUA, MEXICO.

FRANCISCO G., aged thirty years, of Mexican birth, a machinist by trade, consulted me June 1, 1893, in regard to a tumor of the abdominal cavity, which had been troubling him for some time.

He confessed to having been a very hard drinker until about a year before. About six months before consulting me he began to suffer from indigestion, and, seeking medical advice, was told he had gastric catarrh. He was treated by means of lavage of the stomach, but experiencing no relief consulted another physician, who detected the presence of an abnormal collection of fluid in the abdominal cavity. Paracentesis was practised twice, there being withdrawn each time, according to the patient's statement, a small quantity of a clear, yellowish fluid. At no time did he suffer any pain, but he was constantly distressed by his inability to take anything into his stomach without immediate and great discomfort, and by the constant sense of weight and soreness of the contents of the abdominal cavity. Recently he had vomited on several occasions, but the material vomited seemed to be only the food he had eaten. For some weeks he had subsisted entirely upon liquid food, and was able to take only a very small quantity of this at one time. He was now somewhat emaciated, and stated that he had lost twenty pounds in weight during the last six months. He was not aware of having had any fever since being taken sick, and said that his bowels and kidneys acted naturally and regularly. His temperature was at this time normal, and examination of his urine on two occasions failed to reveal anything abnormal.

On examining the abdomen there was apparent a large fluctuating tumor, nearly globular in shape, reaching from the xiphoid cartilage to below the umbilicus, and in a lateral direction entirely filling the abdominal cavity. On percussion the tumor seemed continuous with the liver. My diagnosis was a probable hydatid cyst of the liver.

As it was evident that paracentesis was of no avail in this case, its trial on two occasions having produced no benefit, I advised an exploratory celiotomy with a view of determining the diagnosis, and taking such measures for relief as might then suggest themselves.

On June 6, 1893, the patient was anesthetized by means of chloroform, and the surface of the abdomen was shaved and scrubbed with soap and water, and then with a solution of corrosive sublimate of a strength of one to one thousand. The abdominal cavity was opened at its most prominent part by a linear vertical incision, three inches to the left of the median line, and extending from one inch below the margin of the ribs downward for four inches. Beneath the parietal peritoneum was found omentum instead of the peritoneal covering of the liver, as was expected. It was, therefore, evident that the stomach was above the tumor, compressed between it and the liver, and that the tumor itself was situated in the lesser cavity of the peritoneum.

Cutting through the omentum this was found adherent to another layer of peritoneum beneath, which covered the tumor itself. This was still thought to spring from the liver, but was now believed to be connected with the part of it posterior to the lesser omentum. Satisfactory manual exploration was impossible, owing to the size of the tumor. I now introduced a trocar of about 4 mm. diameter through the cyst-wall, and drew off about a gallon and a half of a turbid, yellowish-green, rather thin purulent fluid, of a sweetish, peculiar smell. After withdrawing the canula there was room enough around the tumor to make a manual exploration of the abdominal cavity. In the upper part of the incision now appeared the stomach, which had found room to descend and now had a little gas in it. Behind and above this could be felt the anterior edge of the liver; the small and large intestines were crowded down far below their normal position. The spleen was normally situated, as were also both kidneys. The base of the cyst appeared to extend from the under surface of the liver downward to the region of the kidneys.

The surface of the cyst was now stitched to the edges of the parietal incision with a continuous silk suture, and a longitudinal incision was made into it. This was followed by the escape of a large quantity more of thin purulent fluid and of a white granular substance, which in appearance and consistence much resembled boiled rice. From the bottom of the cavity I removed with my hand a solid mass about three inches long and an inch broad, which had been floating about in the fluid, and which, on more careful examination, proved to be a piece of pancreas-substance, in appearance somewhat changed from its natural condition. It was of a grayish color and of a flabby, soft consistence, having apparently undergone fatty degeneration, though no microscopic examination was made of it. The sac of the cyst was about 3 mm. thick, and rather weak, the stitches showing a tendency to tear through it.

The wound was closed with silk sutures, a rather thick rubber drainage-tube, eight inches long, being used to drain the cavity, and an antiseptic dressing was applied and held in place by a Scultetus bandage.

The patient's recovery was not interrupted by any serious mishap. At first there was a profuse discharge of pus through the tube, and the dressings required

renewal twice a day. On June 15th I commenced injecting the cavity daily through the tube with a solution of permanganate of potassium, and by July 1st the discharge from the wound had become perfectly clear, very much resembling saliva. The drainage-tube was now entirely dispensed with, but the pancreatic fistula remained open, in spite of attempts to encourage its closure by injections of tincture of iodin, until August 25th, when it closed permanently. For about ten days from the time of the operation the patient was kept on a liquid diet; but this was due to his general condition, and not because digestion itself was in any way particularly disturbed. Since that time he has been able to eat anything without discomfort.

On September 1st he returned to his work as a machinist, and reported that he weighed twenty pounds more than before the operation, which, allowing for the weight of the fluid removed, would indicate a gain in healthy tissue of at least thirty-five pounds.

On February 28th he still remains well, but unfortunately has gone back to the drinking-habit.

The especially interesting features of this case are: First, the difficulty in diagnosis. The dyspeptic symptoms were only such as would naturally have been caused by the mere compression of the stomach, the unaffected portion of the pancreas apparently doing the work of the whole gland. On anatomic grounds alone I believe that, unless seen in an earlier stage, it would have been absolutely impossible before the operation to locate exactly the tumor, although possibly by more frequent examinations the position of the stomach might have been ascertained. By more frequent examinations of the temperature, too, some elevation might have been detected. The diagnosis, indeed, was not made until the loose piece of pancreas rendered it evident.

Secondly, the size of the cyst. The only case of pancreatic cyst or abscess I can find recorded which at all approaches this in size, is Bozeman's case of pancreatic cyst, which contained two gallons and a half of fluid, or half a gallon more than this held.

Thirdly, the contents of the cavity. The loose piece of pancreas-substance is spoken of as occasionally occurring in pancreatic abscesses; but all the other facts seem to me to indicate that this was primarily a simple distention-cyst, afterward undergoing suppuration, perhaps from the use of a dirty instrument when paracentesis was performed. The absence of the constitutional signs of suppuration, the history of a clear fluid having been withdrawn, the great distention without rupture of the capsule of the pancreas, the rice-like substance found in the fluid, the very character of the fluid itself, all suggest to my mind that it was a cyst afterward undergoing suppuration, and not primarily an abscess.

Finally, the etiology and termination. The cause of the disease in this particular case is certainly obscure. No calculus was found. The persistence of a pancreatic fistula after the operation indicated that there was a backward flow of pancreatic fluid from the portion of the gland remaining, possibly caused by continued obstruction of the main duct or one of its branches, or more probably occurring simply because there was less resistance to the flow in this direction than through the natural channel. The final closure of the fistula, with-

out return of the symptoms, indicates that if there was continued obstruction this has been removed, which, in the case of an impacted calculus, is rather unlikely, the impaction having lasted so long; or that the portion of the gland from which the backward flow occurred has undergone atrophy, which is still more unlikely. The probabilities are that all that portion of the gland the secretion of which was originally prevented from passing down the main duct, was removed at the time of the operation, having early undergone fatty degeneration from pressure, or a cutting-off of its blood-supply; that the pancreatic fluid was discharged through the fistula after the operation simply because that was its readiest mode of exit; and that when by the natural process of cicatrization the fistula closed, the fluid found an exit by its natural passage, the canal of Wirsung. As for the cause of the original obstruction, if not a calculus, this was probably of catarrhal origin, perhaps resulting from the man's previous intemperate habits. At any rate, I could learn of no cause that seems more probable.

CARCINOMA OF THE LARYNX, WITH CONSECUTIVE EPITHELIOMA OF THE LIP.

BY CHARLES P. GRAYSON, M.D.,

OF PHILADELPHIA;

PHYSICIAN TO THE DEPARTMENT OF DISEASES OF THE THROAT AND NOSE, HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

IN spite of the abundant lymphatic supply of the larynx, metastasis associated with carcinoma of this organ is so rare that its occurrence has been denied by more than one author. The rich experience of Morell Mackenzie could furnish but a single instance of it. During the past decade, however, a number of cases have been recorded in which secondary deposits were found in the mediastinal glands, the lungs, and in the abdominal cavity. As a rule, glandular involvement is a late feature of malignant disease of the larynx, usually not making its appearance until ulceration has existed some time. Contamination of the blood-current, therefore, unless direct, and transportation of the infecting cell (or parasite?) to remote regions, are proportionately delayed or do not occur at all. Of the varieties of laryngeal carcinoma, divided by Krishaber according to their location into extrinsic and intrinsic, the former is the more likely to occasion glandular infiltration, and ample explanation for this difference will be obtained by reference to Sappey's demonstration of the peculiarities of the lymphatic distribution in this region.

This brief preface serves to introduce the two points that make the case here reported an exceptional one, viz., that a labial growth apparently metastatic and consecutive to a laryngeal carcinoma has occurred, and that this latter at the time of writing this report is still wholly intrinsic. The relative situation of the secondary to the primary growth affords additional matter for surprise and speculation.

Frank S., thirty-four years of age, married, and a policeman by occupation, has a family history, recent and remote, quite negative. Two brothers are living, both in excellent health. The patient has three vigorous children, and, until this present illness, has himself enjoyed uninterrupted health.

In December, 1891, a severe attack of influenza confined him to the house for three weeks, but, though greatly reduced by this illness, his recovery was complete and during the ensuing year he was as well and active as ever. In December, 1892, he had a second experience with influenza. This attack was of briefer duration than the first, but left him with what seemed like an obstinate "cold in the head." This remained limited to the cavities of the nose and naso-pharynx for some two or three weeks, and then moved downward and established itself in the larynx. Its invasion of this cavity was announced by the sensations usually accompanying an irritative hyperemia of its mucosa—dryness, heat, and tickling—and these provoked frequent but futile efforts to clear the throat. There was neither cough, dyspnea, nor dysphagia, and for some time the voice was not noticeably impaired. He entered, toward the latter part of January, upon a two months' course of treatment by a homeopath, from which he emerged destitute of voice and with a great increase of laryngeal secretion. There is no obtainable history of hemorrhage.

The patient reported at the Throat Department of the Hospital of the University of Pennsylvania, August 29, 1893, coming, he announced in a harsh whisper, almost solely that his voice might be restored. He did not suspect that anything serious could be the matter with his throat, since there was an entire absence of pain and, excepting the aphonia, he had little to complain of but discomfort. He was of good color, muscular, and seemed in excellent general condition.

Nothing abnormal was discovered in the nasal cavities or the pharynx. The laryngoscope disclosed, also, a normal epiglottis, but at this point health came to an abrupt stop, and of the rest of the larynx disease held complete possession. The two ary-epiglottic folds were swollen to dimensions that wholly obliterated their original outlines. The inter-arytenoid space was represented only by a shallow fissure that marked the line of contact of the huge masses enveloping the arytenoids. The mucosa and submucous tissues were not edematous, but were shown by the probe to be the seat of a dense and resistant infiltration. Within the laryngeal cavity a degree of ulcerative destruction so advanced was found that its existence for some months could not be doubted. This ulceration was limited to the right side, and its upper boundary came within a line or two of the swollen and overhanging ary-epiglottic fold. The ventricular band was deeply excavated, the vocal band had vanished, and the lower margin of the ulcerative process was lost to view in the depths of the sub-glottic space. On the left side there was great infiltratory swelling, but, as yet, no superficial breach of tissue. The borders of the ulceration on the right were marked by a luxuriant fringe of nodular excrescences, and the whole appearance of the growth was unmistakably malignant.

The examination of the larynx being completed, the patient drew the lower lip downward and exposed an ulcer on its inner surface to the right of the middle line. This had been first noticed three weeks before. It had come, he said, like an ordinary "cold sore," but had gradually enlarged its dimensions and changed somewhat in appearance. At this time it was almost circular and about 8 mm. in diameter, its surface almost flush with the surrounding tissue, and with very little indura-

tion of its base. Alone, the character of the lesion would scarcely have aroused suspicion, but its coexistence with a certainly carcinomatous laryngeal growth led to its closer scrutiny and a more careful marking of its progress. It was early submitted to Dr. John Ashurst for opinion and was regarded by him as an epithelioma. In the effort to check its extension several agents have in turn been tried and have failed, the submaxillary glands have gradually enlarged, and, within the past few weeks, the patient has begun to exhibit some signs of the long-delayed cachexia of malignant disease. Glandular involvement that can be traced to the laryngeal disease is still very slight. The pre-laryngeal gland can be felt lying upon the crico-thyroid membrane, but the group of glands on either side of the neck beneath the thyro-hyoïd membrane, to which the lymphatic vessels of the upper portion of the larynx are tributary, still eludes detection. A few of the glands that flank the trachea are slightly enlarged, but not nearly so much as the stage of the disease in the larynx would lead one to anticipate.

With the completion of this statement of the existing disease the bare report of the case ends, but several questions may suggest themselves that have both interested and puzzled me. If, for a moment, we admit that the labial growth is a metastatic one, by what path did the infecting cell coming from the larynx reach this point—through the blood-current or by way of the lymphatic vessels? Or, putting aside the theory of metastasis, is it possible that the lesion upon the lip was in its beginning quite innocent and that a malignant transformation ensued upon an auto-infection at this point? Or, finally, may we regard the ulcer as having been malignant from its inception, yet at the same time as wholly independent of the laryngeal disease? In other words, is the synchronism of these two growths simply the expression of a diathetic state predisposing to the development of multiple malignant neoplasms?

The first of these questions is not easy of solution. If we consider the lymphatics, we find that they afford no path, either direct or circuitous, by which the carcinoma-cell could have been naturally conveyed to this point by the lymph-current. The downward course of this stream would oppose the upward movement of the infecting agent toward the lip, and unless we attribute to the cell an inherent migratory power of sufficient strength to overcome the force of such an opposing current, we are compelled to look elsewhere for a means of transportation. If, therefore, we turn to the bloodvessels, we are confronted by the facts that up to the day of his placing himself under treatment, which was three weeks subsequent to his discovery of the labial sore, it is extremely improbable that there had been any contamination of the blood, either direct or through the usual medium of the lymphatic system. There had been no hemorrhage from the laryngeal lesion, the sputum had contained at no time even a trace of blood, and glandular involvement was so slight that its detection required a most careful search. It may be offered as further counter-evidence that it has not been until the last two or three weeks that the customary cachexia has been at all discernible.

Abandoning, therefore, for anatomic and other reasons, this theory of metastasis, what has the second

theory to say for itself—that which supposes a primarily innocent ulcer to have acquired malignancy through its constant exposure to the irritating discharges and tissue-débris coming from a neighboring carcinomatous growth? This, at first thought, may not impress one as being a very likely accident, but instances are not wanting in the literature of carcinoma that will afford it a quite substantial support. In the *British Medical Journal*, 1889, vol. i, p. 133, Newman reports a case in which an epithelioma springing from the right vocal band effected in time an erosion upon the opposite band at its point of contact with it, this proving to be the first step in the production of a second and identical growth; one, however, that was unquestionably the result of auto-infection and not of metastasis. Additional cases might be referred to which, though perhaps clinically less clear than this one, yet afford almost equally strong presumptive evidence of a similar mode of origin.

The third and last question affords wide opportunity for conjecture, but of weighty evidence concerning the relationship or dissociation of these two growths there is little to be offered. It may be said, however, that if they are to be regarded as wholly independent of one another the patient presents a remarkable instance of "original sin" in the matter of malignant disease. His family history is entirely without blemish of this character, his parents and grandparents having lived to advanced age and dying from causes that could have exerted no sinister influences upon succeeding generations. Heredity, indeed, is not now admitted to play the same prominent part in the diagnosis and prognosis of suspicious new-growths that it once did. Dr. Herbert Snow, of London, in a recent article in the *Medical Press and Circular* concerning improved methods in carcinoma-treatment, says: "Heredity is an element which is much more likely to mislead in diagnosis than the reverse. I have learned that a person who comes to me with a strong family history of cancer is much more likely to be suffering from some innocent ailment than from this dreadful scourge."

In conclusion, a word may be added concerning the curious frequency with which malignant neoplasms have been recently observed to follow in the wake of influenza. Of course, no specific causal relationship will be alleged to exist between epidemic influenza and carcinoma, but it does at first glance seem something more than a mere coincidence that the one should follow the other so often as the medical periodicals of the past year or two have asserted it to do. It is, not improbably, to the exceptionally exhausting nature of this disease and to the intensity of its depressing effect upon tissue-vitality, as well as to the various vaso-pareses it leaves behind it, that the early appearance and rapid development of malignant disease are due. The recorded examples of this sequence are too numerous to permit of individual reference, but I may add to their number the one that forms the subject of this report, and, also, two others of which I have had charge—one, a hostler in the Veterinary Department of the University of Pennsylvania, who died last spring of a laryngeal epithelioma, the throat having first attracted his attention within ten days or two weeks after an attack of influenza; the second, a clergyman who, two months after a severe attack of influenza in September, 1892, was compelled by

loss of voice to give up his church, this being the first symptom of a malignant laryngeal growth the progress of which was so rapid that it necessitated tracheotomy in August last and proved fatal in October.

CASE OF ATTEMPTED SUICIDE BY SULPHATE OF MORPHIN TREATED BY PERMANGANATE OF POTASSIUM; RECOVERY.

BY H. D. WALKER, M.D.,
OF FRANKLINVILLE, N.Y.

IN view of the recent experiments by Dr. Moor, of New York, tending to show that the permanganate of potassium is an antidote for poisoning by morphin, I think it is proper to report the following case.

Between the hours of two and four o'clock P.M., on March 14th, Mrs. A., aged fifty-eight years, took, with suicidal intent, as nearly as can be ascertained, about forty-five grains of morphin sulphate. I was called to see her at nine o'clock P.M., and found her lying upon a sofa, sleeping soundly; the pulse was 90; the respirations not stertorous, but irregular, and averaging about twelve per minute; the pupils very extremely contracted—like pin-points. She could be roused by speaking loudly to her, but would immediately go to sleep again. She could not walk or stand alone, and when raised upon her feet staggered about and would have fallen if not supported. She responded to questions when thoroughly aroused, and on my asking her how much and when she had taken morphin, she denied taking any, and asked if we thought she would lie about it. The following history was obtained: She was alone in the house from one until four o'clock P.M., when a neighbor called and found her lying upon the sofa in a dazed and delirious condition, her face highly flushed and of a dark-red color. Her husband was sent for and arrived soon. She was then very sleepy, but could be roused, and suspecting she had taken morphin he questioned her about it. She denied this, and not knowing how to account for the state she was in he sent for me. On careful inquiry I could not learn that there had been any morphin or opium in the house for several months, but being thoroughly satisfied from the symptoms that it was a case of poisoning from opium or one of its preparations, and believing that an emetic would avail little, on account of the time that had elapsed since it was taken (at least five hours), I concluded to give the permanganate of potassium a trial. I immediately procured some from my office, a short distance away, and gave her five grains dissolved in a glass of water. In fifteen minutes from this time I gave her two and one-half grains more, in half a glass of water, and the last dose was repeated every quarter of an hour until she had taken fifteen grains of the antidote. Her condition at this time was so much improved that I did not think it necessary to give her more, as she could easily be kept awake. She was then placed in a rocking-chair and given a paper to read. This was exceedingly difficult for her, on account of the contraction of the pupils—so much so, in fact, that she could make out but a few words of the coarsest print. I remained with her until midnight, at which time I considered it safe to leave,

after giving directions that she should be kept awake, and if she became very sleepy she should be given more of the permanganate of potassium.

On my visit the following morning I found that she was greatly improved, and on questioning her she gave me the following history: Having an idea that she was a burden to her husband, she determined to end her days in such a manner that no one would suspect that she had taken anything for that purpose; so she procured a dram of morphin sulphate from a neighboring city, the week before, directing the same to be taken from the vial and sent by mail in an envelop. This she kept until the afternoon of the 14th, when, as the clock struck two, she took the first dose, which was as much as she could conveniently hold in the hollow of her hand, and she believed it was enough to kill her. This, as well as subsequent doses, was taken dry, with a drink of water to wash it down. As the clock struck half-past two, feeling no effect from the dose taken, she took another one. Within a short time after this, in order to make sure, she took two or three doses more. At no time was there any vomiting, so that all of the morphin must have been retained. In corroboration of this, she told us where to find the morphin that was left. We found this where she had fastened it with a carpet-tack, in an envelop, on the back side of a bureau-drawer, when she took the first dose. There were five tack-marks on the drawer, showing it had been removed four times, and from this it is believed that five doses were taken. There were ten grains left in the envelop, so that about forty-five grains were gone.

The foregoing history would be imperfect and misleading did we not record the patient's previous habits in regard to morphin. This will not only help to explain why she was not more seriously affected by the amount taken, but it is also necessary in order that we may not overestimate the effects of the permanganate given as an antidote. I am informed by her husband that for twenty years she had taken morphin, until about the 15th of last October, since which time, I am well satisfied, she has taken none until now. He tells me she took for quite a time before leaving off the habit, about ten grains of morphin three times daily. Now, in view of this history and her symptoms, I am not prepared to say that in her case the amount taken with suicidal intent would have been a fatal dose; on the contrary, it seems probable that she might have recovered without the use of the permanganate. But I am favorably impressed with the action of the antidote, and believe that it aided much in relieving the woman of the effects of the poison. Whether it did this by acting on the morphin which still remained unabsorbed in the stomach, or upon that which was brought back to this organ through the circulation, as suggested by Dr. Moor, I shall not attempt to decide. The first view seems to me more probable than the last.

In regard to the action of the permanganate as an antidote to morphin injected subcutaneously, I confess I am somewhat skeptical. If a large dose were given in this way, I fear that the patient would die before enough of it was brought to the stomach, through the circulation, to be acted upon by the antidote. I certainly should not advise as an experiment that a poisonous

dose be given subcutaneously to a person for the purpose of testing the effects of the permanganate through the stomach.

HYDATIDIFORM MOLE; REPORT OF A CASE.

BY H. F. C. HEAGEY, M.E., M.D.,
OF COCHRANVILLE, PA.

THE infrequency of hydatidiform mole, or myxomatous degeneration of the placenta, and our ignorance of the primary cause, make such cases interesting. Many and various have been the opinions advanced as to the nature of the "vesicular mole," but the theory of Virchow, "myxomatous degeneration of the villi of the chorion," is now generally accepted. If the modern erroneous idea that a hydatid must always contain echinococci can be gotten rid of, and the term be taken in its original and correct meaning of a water-like cyst, none need object to the now almost universal designation "hydatidiform mole."

Modern research shows that this formation is not likely to occur independently of conception, and that the usual exciting cause is most probably maternal, and due to some dyscrasia, as carcinoma or syphilis; yet it must not be forgotten that echinococci, from their very nature and habits, might be here, as well as elsewhere in the body, the cause of the degeneration independently of conception, or the cause of the degeneration of the chorial villi. Rokitansky says that it can be an independent growth—a "uterine acephalocyst." Here the microscope will bring the decisive test, and prove quite valuable from a medico-legal status. Parvin (*Science and Art of Obstetrics*) says: "The disease is not frequent, Madame Boivin saw but one case in 20,375 deliveries."

The following case adds testimony to the fact that the disease is most frequent in the aged and multiparous; it very faintly suggests a carcinomatous dyscrasia, while a tuberculous family history here, as noticed in other cases reported, may not be a mere coincidence.

It occurred in a farmer's wife, fifty-two years old, healthy, quite stout, and weighing 220 pounds. She is the mother of eight fairly healthy children, and has had no miscarriages. She had slow enteric fever at seventeen; puerperal fever with her second child; and congestion of the liver after her last confinement, eight years ago. Her mother is living; her father died at eighty-four, with chronic bronchitis and a fractured hip; she has had no sisters; of two brothers, one died at forty, of asthma associated with bronchitis, and the other died at forty-five, of pulmonary tuberculosis. One paternal uncle died of asthma associated with bronchitis; another paternal uncle died of carcinoma. The menses first appeared at fourteen, and were regular from her last confinement until July, 1893. This suppression, except for a slight "show" now and then, and a few very slight symptoms, was supposed by her to be due to the approach of the menopause. I was called hurriedly to her (seven miles distant), October 7, 1893, but by the time of my arrival rest in bed had already arrested a moderately severe uterine hemorrhage. Slight metrorrhagia continued during the next four weeks. There was no pain or any discomfort, except a feeling of weight in the pelvis. Another free uterine hemorrhage occurred on November 6th, which was again arrested

before my arrival. The pulse was 85, the temperature 98.5°. Examination *per vaginam* showed the os to be slightly dilated, but quite securely plugged with some membranous substance. The bowels moved quite freely during the night and on the morning of the 8th, but there was severe headache, nausea, and colic. Bismuth and opium relieved the condition of the bowels, and a combination of bromid and caffein the headache. I was again summoned hastily on the morning of November 10th, and found the woman beginning to rally from a shock. Another severe uterine hemorrhage had taken place, but had been checked by the application of vinegar and a tampon, in which I had previously instructed the nurse. The pulse was 120, but regular, and not very weak; the temperature 98°. The nurse said that the patient had been rather uneasy for a short time, when suddenly she announced that something had given way. A mass was passed weighing probably three pounds, whose characteristic cystic degeneration at once proved it to be a hydatidiform mole. An attack of syncope and the hemorrhage followed this. The os was contracted, but a slight hemorrhage continuing, I reapplied the vinegar tampon. The patient rallied quite readily. Eight hours later the pulse was 85, the temperature 99.5°. There were slight hemorrhages on the 11th and 12th, and a small placental mass, only a part of which was degenerated, was passed. A slight odor indicated decomposition, but there being no signs of absorption, I ordered a vaginal douche of hot water and sodium chlorid. The patient convalesced with no unusual symptoms, except a slight attack of supra-orbital neuralgia on the 11th. A pulse of 80 is normal for her. There was no rise of temperature except during reaction on the 10th. The microscope revealed no echinococci. There was no trace of a fetus. Degeneration was almost complete, except throughout probably one-tenth of the mass. On March 3, 1894, there had been no return of the menses, and the patient was in her usual good health.

I could suggest no better illustration of the degenerated portion of the mass than Fig. 100 in Parvin's *Science and Art of Obstetrics*.

THE VECTIS IN VERTEX-POSTERIOR POSITIONS OF THE FETUS.

BY JOHN GRAHAM, M.D.,
OF PHILADELPHIA.

PROFESSOR S. D. GROSS urged in eloquent language the revival of the lost art of bloodletting, and I wish to send forth my humble appeal, to save from possible loss, by long-continued disuse, an instrument, the vectis, that I have found of great value in obstetric practice. A well-known teacher of obstetrics in Philadelphia calls it a supernumerary instrument. A well-read recent graduate, whom I recently met in consultation, had never seen the instrument.

What unpleasant memories "vertex posterior" recalls to the mind of the obstetrician! Long and weary waiting on the part of the physician, suffering and exhaustion on the part of the woman—a forceps delivery, and probably a torn perineum.

Lusk says that so long as the occiput looks to the rear it is the rule in midwifery practice to refrain from

the use of the forceps, which of necessity prevents forward rotation from taking place. He also says attempts to rotate the occiput toward the symphysis by instrumental means are rarely successful; the vagina, being an elastic tube, turns with the head, and when the force is removed the vagina turns the head back. Now, it is undoubtedly true that the vagina is an elastic tube, and it is equally true that in turning the head with the vectis the vagina sometimes, but not always, turns with it; and that in the cases in which the vagina turns with the head on relaxing pressure, the head tends to go back with the vagina. But why relax our pressure? The important point conceded is that the head can at times be turned, and I have found that by keeping up the steady pressure on the side of the child's head with the vectis, a few uterine contractions will generally fix the head well down between the tuberosities of the ischii, and the trouble is over.

Long experience has made me fairly skilful in the use of the obstetric forceps, and many times have I watched cases in which the head was in the pelvis and the vertex pointing to the right or left, and with each pain rotating now 45 degrees to the front, and again 45 degrees toward the sacrum, but on the recession of the pain always returning to its position, crosswise in the pelvis. Watching my opportunity, when the vertex has temporarily turned toward the front, I have rapidly put on the forceps, endeavoring to adjust the instrument to the sides of the head, only to find that in the majority of cases I had converted the case into an ordinary vertex-posterior.

Of late years I have seldom been tempted to use the forceps as a first resort in this class of cases, for I have found that with the vectis a majority of them can be converted into vertex-anterior cases.

When the head is tightly locked in a transverse position in the pelvis, all efforts to turn the vertex to the front with the vectis will, of course, fail; but no harm is done by the use of the instrument, and failing in the endeavor, it is my custom, after long and patient waiting, to try to complete the rotation of the vertex backward, and then apply the forceps, delivering slowly and carefully.

I apply the vectis over the parietal bone, the parietal eminence entering the fenestrum of the vectis, and use the instrument partly as a lever of the first class and partly as a tractor, making my extended fingers and not the woman's soft parts the fulcrum. The traction is a very important and efficient part of the use of the instrument, and largely assists in drawing down and fixing the vertex after it is turned to the front. Used in this manner, the vectis has enabled me to give to many women safe and easy deliveries. By preventing vertex-posterior deliveries it has, I am confident, enabled me to save the lives of children, and failure in its use has never injured mother or child.

326 SOUTH 15TH ST.

MEDICAL PROGRESS.

Changes in a Hand Fifteen Years after Division of the Median Nerve.—GRIFFITHS (*Journal of Pathology and Bacteriology*, vol. ii, No. 3, p. 346) has reported the case of a man, seventy-three years old, who, while engaged in cutting chaff, at the age of fifty-eight, had the left arm caught in the machinery just above the elbow and cut

upon its inner aspect to the bone. There was much bleeding at the time, and the hand at once became numb and useless. About a year after the accident a certain degree of feeling had returned to the skin of the hand. Two years later the tip of the middle finger began to fester and ulcerate, the nail dropping off and the end of the finger disappearing bit by bit, without the coming away of any pieces of bone or obvious sloughing and gangrene of the parts. Some time afterward the same ulcerative process began in the tip of the index finger. This ulceration was attended with but little pain. The activity of the ulceration depended largely upon the state of the weather and the season of the year, being aggravated by cold and ceasing in warm weather. By progressive ulceration, a sort of liquefactive necrosis of soft parts, tendons, and bones, the distal portions of the index and middle fingers were lost. Six or seven years after the accident the ring and little fingers became slightly flexed, the flexion gradually increasing and the fingers becoming quite painful. Some seven years later the extremity of the thumb began to ulcerate, and continued to do so, with slight interruptions during the warm weather, until the man came under observation. The hand and forearm were much wasted from atrophy, especially of the muscles. The index and middle fingers had in great part disappeared, only conical stumps composed of the first and a small portion of the proximal end of the second phalanx remaining. The ring and little fingers were fully flexed, fixed, thin, and tapering, with commencing ulceration on the extensor surfaces of the terminal joints. Ulceration was in progress on the thumb, but had as yet only destroyed the pulp and a small portion of the terminal phalanx, the nail being thickened and curved over the end. The skin of the whole hand was thin and shiny, but over the fingers and thumbs it was of a purplish color, except at the very extremities, where it was tightly stretched and of a pale color and wax-like appearance. Over all of the fingers and the greater part of the thumb, the skin was firmly fixed to the subjacent structures and was also somewhat translucent, as if that which gives opacity and dullness to the natural skin had in great part disappeared. The thenar and hypothenar regions were hollowed from extreme wasting of their respective muscles, and the intervals between the metacarpal bones on the dorsal aspect, normally occupied by the interossei, were also hollowed, so that the outlines of the several bones were very distinct. Owing to the changes that had occurred in the fingers, their movements were either partially or completely interfered with, but there was limited flexion and extension at the wrist, as well as slight flexion, extension, and adduction of the thumb. Sensation was defective over the whole hand, but was nowhere completely absent. On the lower and inner part of the arm, just above the inner condyle of the humerus, was a linear, oblique scar, from two to three inches in length, which was not deeply fixed. Into the scar the brachial artery could be traced, but below it could not be felt. On the outer side of the artery, at the upper extremity of the scar, was a small, rounded or ovoid very tender lump, which was presumed to be the swollen central extremity of the divided median nerve, displaced somewhat from its natural position. The man desired to have the hand removed on account of the pain and

the recurring ulceration, and the operation was accordingly performed. Upon dissection of the removed part the median nerve appeared as a whitish, firm cord at the wrist, measuring one-sixth of an inch in diameter, surrounded by an excess of fat and wanting in the glistening appearance of a normal nerve. Upon microscopic examination it was found to be completely transformed into bundles which corresponded with the original nerve-bundles, but consisted simply of wavy fibrous connective tissue. There were, however, no traces of medullated or non-medullated nerve-fibers to be seen. The change consisted simply in a substitution of the nerve-fibers and bundles by connective-tissue fibers and bundles, without much, if any, diminution in size. The ulnar nerve was also of nearly normal size, but tough in structure and also surrounded by much fat, having lost its smooth, glistening appearance. Microscopically, the perineurium and endoneurium were found to be increased, dense, and fibrous, with nerve-fibers in various stages of atrophy, many having altogether disappeared. Most of the fibers had partially lost their medulla, and, owing to the increase of fibrous connective tissue, they were more widely separated than normal. The appearances resembled those found in chronic neuritis. The remaining soft parts were greatly atrophied and in parts replaced by fibrous tissue, the changes being more marked in the distribution of the median nerve than in that of the ulnar.

Hydrocephalic Fetus; Rupture of the Uterus; Removal; Recovery.—FETHERSTON (*Australian Medical Journal*, vol. xv, No. 12, p. 610) has reported the case of a multipara, thirty-five years old, in which labor set in at term, with weak pains, which lasted four days and then ceased for two days, when she was suddenly seized with severe pain in the left side of the lower portion of the abdomen. Profuse bleeding from the vagina took place, and the woman quickly went into collapse. On vaginal examination a tear was found on the posterior surface of the uterus, connecting with the vagina slightly above the posterior vaginal junction, and extending along the left side of the uterus higher than could be reached. The peritoneum was not torn posteriorly. The os was fully dilated, soft, and flabby, and on the left side the cervix was torn into the uterine wound. The left lateral fornix of the vagina was also torn along its whole length toward the pelvic wall. The membranes were ruptured, and the placenta lay in the opening in the side of the uterus. A hydrocephalic head was found presenting. The hemorrhage being profuse the head was perforated, but could not be delivered without version. The placenta had passed through the rent in the uterus into the abdominal cavity, and some loops of intestine came into the vagina behind the uterus. Slight traction sufficed to deliver the umbilical cord, with the membranes attached. The intestines were pushed back, and pressure kept up upon the fundus to control the hemorrhage. As the patient appeared to be dying from loss of blood, it was decided to open the abdominal cavity. When the accumulated extravasation had been removed it was found that the uterus was torn along the whole length of the left side, from the vagina to about an inch above the opening of the left oviduct. The edges of the tear gaped apart about two inches, and were not bleed-

ing at all. The peritoneum of the posterior wall of the broad ligament was torn from where it was reflected on to the uterus, and out along the floor of the pelvis almost to the pelvic wall. At the outer edge of the tear a large vein was bleeding, and this was controlled by a silk ligature. The pelvic and abdominal cavities were irrigated with hot water. The peritoneum of the left broad ligament was quite black in places, and appeared as if it had been bruised by the passage of the fetal head. The bloodvessels going to the right side of the uterus were ligated; then the body of the uterus was tied in five places with strong silk, and the fundus was removed. All ragged pieces of the torn peritoneum were removed, and the edges brought together with fine silk. The pelvic and abdominal cavities were now thoroughly cleansed, and the stump of the uterus sutured into the lower angle of the abdominal wound, and the abdomen closed with silk sutures. The operation occupied altogether an hour and a half. The patient had for some time been pulseless and cold, in spite of subcutaneous injections of ether, bandaging the limbs, and hot packing. She was put to bed, and received, among other things, ten ounces of hot coffee hourly by the bowel for a few hours. In the course of two hours she showed some signs of rallying, and thereafter gradually emerged from her condition of shock. For the first two days after the operation there was a slight oozing of blood from the vagina. On the fifth day the temperature began to rise and the pulse to become accelerated, and pain in the left lumbar region was complained of. A day later a hard, fluctuating tumor as large as an egg was felt behind the large intestine and below the lower edge of the left kidney. This tumor increased to the size of a man's fist, and on the tenth day exploratory puncture disclosed the presence of nasty, black, offensive pus. The cavity was opened and drained. Recovery was thereafter uninterrupted.

Inferior Maxillary Palsy with Loss of Taste.—ZIEHL (*Arch. f. path. Anatomie u. Physiologie u. f. klin. Med.*, B. cxxx, H. 3; *Centralbl. f. d. med. Wissensch.*, 1894, No. 5, p. 95) has reported the case of a man, fifty years old, who, following exposure to cold, experienced a sense of twitching and numbness upon the right side of the face. On investigation it was found that sensibility of all forms was impaired upon the chin, teeth, temple, and tongue in the distribution of the right inferior maxillary nerve, with paralysis of the muscles of mastication upon the right side, and loss of electric irritability and atrophy of the temporal muscle. The sense of taste was also impaired upon the anterior portion of the right half of the tongue, although preserved upon the posterior half and upon the left side. In the course of two months gustatory and tactile sensibility had returned, but even after the lapse of a year the temporal muscle was paralyzed and atrophied.

THERAPEUTIC NOTES.

Alpha Naphthol in Typhoid Fever.—MAXIMOWICZ (*Wien. med. Pr.*, No. 10) has employed α -naphthol with success in the treatment of typhoid fever. He maintains that α -naphthol is a more active bactericide and a less toxic agent than β -naphthol. Doses of from 7.5 to 15 grains were administered three or four times daily. Under this treatment the morning remissions were prolonged, the

tongue became clean, meteorism and the pain in the right iliac fossa subsided and finally disappeared entirely, and the duration of the attack was shortened. The administration was maintained until the temperature had been normal for three or four days. The following formula was found useful:

R.— α -Naphthol	3ijss-3iv.
Bismuthi salicylatis	3jss.
Pulvis cinnamomi vel	
Quininæ hydrobromatis	3j.—M.

Ft. pulv. no. xx.

S.—One from four to six times daily.

In case of pronounced meteorism with severe abdominal pain the following formulae may be used:

R.— α -Naphthol	3ijss.
Bismuthi salicylatis	3jss.
Pulvis rhei	3j.
Ext. belladonnae	gr. iij.—M.

Ft. pulv. no. xx.

S.—One from four to six times daily.

Or—

R.— α -Naphthol	3ijss.
Codeinæ	gr. iij.
Pulvis rhei	3ss.
Pulvis cinnamomi tort.	3j.—M.

Ft. pulv. no. xx.

S.—One from four to six times daily.

Sodium Benzoate.—LIEGOIS (*Deutsche medicinische Wochenschr.*, No. 10) emphasizes the value of sodium benzoate in large doses in the treatment of inflammatory affections of the pharynx. Under this mode of treatment pain and difficulty in swallowing subsided in the course of a few days. Children were given a total dosage of 75 grains daily; adults received from 150 to 225 grains. The drug proved equally efficacious in the treatment of laryngitis and bronchitis, while it failed entirely in diphtheria, both applied topically and administered internally. In combination with tannic acid the drug was found to be useful in the treatment of chronic nephritis:

R.—Sodii benzoatis }	aa gr. lxxv.
Acidi tannici }	
Ext. gentianæ	q. s. ut ft. pil. no. c.

S.—Two pills thrice daily.

Given in small doses in cases of uric-acid formation, sodium benzoate converts the insoluble urates into hippuric acid, and this is readily eliminated by the urine. Sodium benzoate is considered an excellent cholagogue, and may be given in the following combination:

R.—Sodii benzoatis }	aa 3jss
Sodii salicylatis }	
Pulv. rhei radicis }	
Pulv. nucis vomicæ	3ss.—M.

Ft. pil. no. xx.

S.—One pill twice daily.

For Dysentery.—

R.— α -Naphthol	gr. xv-lx.
Olei ricini	3ijj.—M.
S.—From a teaspoonful to a tablespoonful thrice daily.	

MAXIMOWICZ.

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**POPULAR BEVERAGES AND THE PUBLIC
HEALTH.**

WHATEVER else they do or abstain from doing, Americans drink. With a by no means limited class of the community, "What will you take?" is a salutation almost as common as "How do you do?" Drinks—either vulgar and cheap or imported and expensive, according to the tastes, social standing, frugality or extravagance, of the drinkers—are more common in every community than "leaves in Vallombrosa." Almost anything that can be poured from a cut-glass decanter, or a bottle that wears a label, is periodically and unquestioningly swallowed, regardless alike of its origin, nature, cost, or effects. In many cases even its taste is of little or no consequence, the most nauseous and acrid being imbibed without grimace, and with as little external sign of emotion as the most palatable. So thoroughly is this idiotic drinking-habit engrafted on the nation, and not only this nation, but on all "civilized" communities, and to such an extent has the traffic in artificial beverages become a leading factor in the commerce of the country, that the General Government long since found it to be both necessary and expedient to semi-legalize the business by levying a tax on all fermented and on distilled or

"spirituous" beverages. Every municipality also derives a large proportion of its annual revenues from licensing and "regulating" the retail traffic in this class of products.

But there are a thousand and one beverages, in even more universal and yet quite unquestioned use, of which the General Government, the Commonwealth, and the municipal authorities take no cognizance, and concerning which medical men, sanitary philosophers, and political economists make little note; but which, nevertheless, have an important bearing, in their direct or indirect influence, on the public health. This group includes the alleged, but by no means always genuine, products—domestic and imported, natural and fabricated—of the countless springs, whose tastefully-bottled and lavishly-certified waters invariably cure something, and usually help everything, and also all that unenumerated family of still, or sparkling, natural or concocted beverages, saline, "mineral," alkaline, and "soda" waters, the very names of which would fill a respectable volume, including the almost endless list of aerated claimants, from ginger ale to "Thea-nectar" and orange phosphate—the prevailing characteristic of all being that of fizzling trashiness and palpable unwholesomeness.

That our national stigma, *dyspepsia*, and the increasing prevalence of urinary and kidney diseases are largely attributable to this irrational but universal habit of indiscriminate drinking, is too evident to admit of serious question. In this connection it is noteworthy that mortuary reports are beginning to ascribe certain lesions to "a too free use of mineral waters." This bibacity has become a national dissipation. Custom, artificial habit, or ephemeral fashion, and not the sense of thirst or the needs of the body, determine the character, frequency, and extent of the libations. The morbid palate is permitted to become sole dictator, and the deluged and outraged stomach is left to wrestle with the inevitable consequences as best it can.

The increasing outcry against the widespread abuse of alcoholic liquors falls far short of a thoroughly comprehensive temperance movement, as intemperance, using the term in its broadest significance, covers a multitude of sensual sins not in the least degree related to alcoholic indulgence. A majority of the race eat, drink, sleep, work, worry, and even recreate intemperately. They transform the very means of attaining, retaining, and regaining

ing health into insidious sources of deterioration. They prostitute systems of physical culture and bodily development, making them fruitful sources of bodily deformity, mental wreckage, and premature decay. They take work, travel, social life, politics, and even religion in spasmodic and periodic doses; and, as to recreation, they ruin their overstrained muscular systems in frantic contests at foot-ball, rowing, wrestling, or at the bat. They have never comprehended the meaning of the word moderation; and from the time they were coaxed to sleep in their cradles, perhaps by means of soothing syrup and the monotonous lullabies of a hired nurse, they have never known an hour of genuine and restful repose. They consider the hours grudgingly devoted to sleep as so much lost time. If it were a physical possibility they would gladly forego this indispensable function. As it is, they indulge and endure as little of it as possible, and this at unseemly hours, and in spasmodic snatches.

Of all human frailties, crimes against Nature are least excusable. Wilful tampering with physical laws is a crime against Nature and therefore an unpardonable sin—unpardonable in the sense that no individual can hope to escape its consequences. *The body that sinneth, it shall suffer.* No law of vicarious atonement for physical sinners has ever been, or ever will be promulgated. Nor is this fact in any sense negatived by the discovery of anesthetics, cocaine, and the other insidious pain-obtunders. Every artificial mitigation unquestionably costs an equivalent in vital reaction.

Of all the wilful lapses from an ideal and rational standard of daily living mentioned, the drinking-habit may be singled out as the one most destructive to health and human happiness, for the reason that it is so universal as to pass without comment. Even the ubiquitous ice-water tank, considered indispensable in every dining-room, railway-car, station, office, hall, and restaurant, is answerable for a mountain of mischief to the digestive organs of the present generation.

In their zeal the temperance people train all their artillery against the "demon of the still"; the pulpit too often handles the subject from a classically conservative standpoint, while the medical profession absolves itself through occasional discussions and dissertations on the necessity or futility, as the case may be, of the use of alcoholics in fevers and wasting diseases, and by suffering their names to be appended to popular advertise-

ments of shotgun formulas and certain conglomerations of saline, mineral, earthy, and organic constituents, as disclosed by the analyses-to-order "pharmaceutical chemist" whose name was never heard of outside the bottling-room of "The Paralyzer Mineral Spring Company," from which he receives his salary.

The list of table-waters, many of them ostensibly, and some of them actually, transported all the way from the Old Country, is almost endless; and of aerated beverages, good, bad, and indifferent, there is an astonishing list. A degenerate drug-trade has stooped to the traffic; the waters are on the hotel and restaurant tables; the saloon relies on them for one-half its profits, and even the corner grocery crowds its shelves and cellars with cases of them. Every year new claimants appear, as old favorites are dropped. Millions of money and whole armies of men are absorbed in the traffic; and the press of the country—secular, religious, and, to some extent, medical—would be materially crippled by a withdrawal of the advertising patronage growing out of it.

It is a fact that, if the direct and indirect business connected with the conducting, controlling, and supplying the trade dealing in beverages of all kinds, could be suddenly withdrawn from the avenues of commerce, the whole machinery of daily business would be dislocated, and the streets would take on the appearance of a perpetual holiday. Omitting all mention of the myriads of mere dispensers of liquid "refreshments," such withdrawal would throw out of employment, in this country alone, several millions of operatives and artisans, including coopers, carpenters, glass-blowers, hardware merchants, harness-makers, manufacturers of apparatus, engines, and machinery, plumbers, and wheelwrights, not to mention grain and hop raisers, horse-breeders, and the miscellaneous array of middlemen, who necessarily stand between all these avocations and the marketing of their numberless products. It would require the compass of a goodly volume to make an adequate statement of the mere commercial interests involved; whereas the sanitary aspects of the subject have as yet been but superficially studied by the profession. Furthermore, medical men are to some extent responsible for the present status of the question. Many of them are regular patrons of the traffic, and many are direct abettors and apologists as regards the habit itself.

FERRATIN.

SCHMIEDEBERG (*Archiv f. exper. Path. u. Pharm.*, B. xxxiii, S. 101) points out that when albuminates are formed by dissolving albumin in alkalies and such solutions are rendered acid, an albuminous substance is precipitated. This substance has acid properties, as is shown by its combination with bases. If a neutral solution of potassium albuminate be treated with ferrous salts a precipitate of the albuminate of iron is formed. This precipitate is soluble in alkalies, forming double salts. Ammonium sulphid added to one of these solutions produces an intense and instantaneous blackening, on account of the formation of the sulphid of iron, just as happens on the addition of sulphids to the inorganic salts of iron. However, if an alkaline solution of iron albuminate be boiled for a short time or be kept at a moderately high temperature for a longer time, it becomes brown and after this blackens only very slowly on the addition of ammonium sulphid. The last-mentioned compound is not an iron albuminate but a distinctive iron-containing albuminic acid, and may be designated as ferri-albuminic acid. Ammonium sulphid slowly decomposes ferri-albuminic acid and forms the sulphid of iron.

Ferri-albuminic acids containing varying amounts of iron may be prepared. Those most easily made and most readily soluble in alkalies contain from 4 to 8 per cent. of iron. The preparation of a ferri-albuminic acid with a constant iron-content has not been accomplished up to the present time.

With unchanged albumin iron forms compounds similar to those obtained with albuminic acid. These are known as ferri-albumins and are easily made by the prolonged warming of egg-albumin and iron in ammoniacal solution at a temperature below that at which albumin is coagulated.

SCHMIEDEBERG has succeeded in obtaining a ferri-albumin from the livers of hogs by the following process: The livers are finely chopped, then mixed with three or four volumes of water, gradually heated to the boiling-point and maintained at this temperature for a few minutes. The filtrate forms a yellow, clear fluid, which on the addition of a few drops of a solution of tartaric acid yields a flocculent precipitate which is washed first by decantation and then on a filter. This precipitate is a ferri-albumin which forms on drying a brown mass, containing an average of 6 per cent. of iron, and dissolving in alkalies to a clear brown solution.

This ferri-albumin is named ferratin by SCHMIEDEBERG, and he believes that it forms the reserve iron which is stored in the liver to be drawn upon as the needs of the body may indicate. This substance is readily absorbed from the intestines, and as it possesses no corrosive action it may be given hypodermically.

SCHMIEDEBERG believes that he has thus obtained the ideal therapeutic preparation of iron. However, the separation of this substance from the liver is too expensive and the yield too small to admit of its introduction to the profession as a pharmaceutical preparation. SCHMIEDEBERG states that a certain firm of manufacturing pharmacists has succeeded after some years of experimentation in making ferratin artificially, and that the substance which this firm offers to the profession is in every respect as good for therapeutic purposes as that obtained from the liver. He fails to tell us, strange to say, how this artificial compound is made, and evidently there is an attempt in the article to help the trade of an enterprising drug-house. The advertising by a member of the medical profession of a preparation the manufacture of which is accomplished by secret processes is not regarded with favor in this country. This research by SCHMIEDEBERG may prove to be of great medicinal value, but the manner in which he has announced his discovery and the success of the firm in the artificial preparation of the compound is open to criticism.

EDITORIAL COMMENTS.

The Surgical Treatment of Perforation from Gastric Ulcer.—Few cases offer more temptation to the adventurous surgeon and in few, unfortunately, have his endeavors been rewarded with less success than those of rupture of a gastric ulcer into the peritoneal cavity. The affair seems, on the face of it, so absolutely simple; the patient may be in perfect health, with the exception of this little perforation and the resulting extravasation of the contents of the stomach into the peritoneum, and, moreover, in the majority of cases in which the rupture has been sudden and the symptoms typical, the perforation has been in accessible regions—on the anterior wall of the stomach—and yet, so far, few attempts to sew up the opening seem to have been attended with success. Great interest, therefore, attached to the case reported by Mr. Morse, of Norwich, England, in which a young woman having symptoms of gastric ulcer was suddenly seized with symptoms of perforation, and was treated by him successfully by means of celiotomy and suture of stomach. Abdominal section was performed within five hours of the accident; the contents of the stomach were found in the peritoneal cavity; the viscera was withdrawn and a perforation

found; the stomach was thoroughly washed out and the wound united. No food was given by the mouth for sixty hours, and in three weeks the patient was well. The points of importance conducing to the success of this case would seem to be (*a*) early operation, before irrevocable septic mischief has arisen through absorption from the peritoneal surface; (*b*) washing out the stomach as a preliminary to introducing the sutures; this was managed by introducing a large canula through the perforation, and alternately filling this viscus with water and emptying it until the fluid came away clear; (*c*) drawing the stomach out through the wound, so as to perform the washing and suturing with facility; and (*d*), most important of all, the very great care taken to thoroughly wash out the peritoneum. The maneuver adopted by Mr. Morse, with this object, will probably be useful for other purposes also. Instead of merely passing a tube to the various regions of the abdomen, leaving the return-water to wash out the fragments, two large tubes were passed side by side to every part of the cavity, and the flushing was continued at each spot until the return-fluid was clear; by this arrangement the extravasated stomach-contents were washed out through the tube, instead of drifting in the stream from one part of the abdomen to another. It is to be hoped that other surgeons will be able to obtain like success in the treatment of this otherwise very fatal accident. On a very different footing stands the proposal to treat perforation of the bowel in enteric fever, as was shown by the discussion at the Medical Society of London on March 9th. The patient is already seriously ill, and, although the accident, of course, happens suddenly, the signs of its occurrence are often by no means typical. The stupor of the patient leads to the symptoms being more or less masked, the moment of onset may not be discoverable, the pain may not be severe, and the patient may only seem to pass from a bad into a worse condition. Moreover, the ulcers are generally multiple and the intestine rotten, so that the stitches may have to be inserted in unhealthy tissues, possibly even in the bases of other ulcers! A certain number of such cases also recover under medical treatment. The operation, then, would seem a much less hopeful one than that for perforation of gastric ulcer.

The Pathology of Paralysis Agitans.—The belief seems to be gaining ground that paralysis agitans is but a manifestation of premature senility, the result of changes affecting the nervous system as a part of a widely distributed degeneration, and the pathologic evidence tends to support this view. An interesting contribution to this subject has recently been made by KETSCHER (*Zeitschr. f. Heilk.*, Bd. xii, S. 445; *Centralbl. f. allg. Pathologie u. pathol. Anatomie*, Bd. v, No. 4, S. 173), based upon observations made in the laboratory of Chiari at Prague. The tissues from three cases were carefully studied, the material being from subjects between sixty-eight and seventy-six years old. The changes found, and which corresponded with those found by previous investigators, consisted in a varying degree of degeneration and atrophy of the specific nervous elements, the ganglion-cells and the nerve-fibers, as well as of the muscles. There was also hyperplastic increase of interstitial tissue, in brain as well as in nerve, and

in muscle, and this was particularly marked in the neuroglia of the posterior columns adjacent to the posterior median fissure. In this situation, in the ependyma of the lateral ventricles, and at the periphery of the cord generally, there were noteworthy accumulations of copra amyacea. There were also present thickening of the walls of the vessels, with dilatation of the perivascular and pericellular lymph-spaces and obliteration of the central canal of the spinal cord by the surrounding increase of neuroglia, together with hyperplasia of the epithelium of the lining membrane, giving rise in places to dilatation of the canal. For comparative purposes studies were made of the spinal cord, peripheral nerves and muscles, obtained from ten persons that had died of other conditions, between the ages of fifty-seven and seventy-six years. In all of these changes were found that differed only in degree from those found in the cases of paralysis agitans. The legitimate conclusions from these observations is that paralysis agitans is but the expression in the nervous system of a premature senile degeneration. Etiologically it may be conceived that as a result of diminished functional activity there occurs defective elimination of matters that, retained, give rise to irritation and bring about degeneration in the nervous system, as well as in the vascular system and in the viscera, and the progression of which leads finally to the extinction of life.

The Falkenstein Treatment of Pulmonary Tuberculosis.—We hear a good deal about the open-air treatment of pulmonary tuberculosis, and the attempts to raise this method into a "system" as practised at Falkenstein in the Taunus Mountains in Germany are worthy of all praise, so far as they demonstrate to the world at large, which is not very believing in such matters, that tuberculous patients are all the better for open windows. At the establishment at Falkenstein, in addition to good food, cleanliness, perfect sanitation, and most careful measures to prevent the diffusion of tuberculous dust, a definite attempt is made to enable the patients to pass their whole time in the open air. Plenty of rugs and clothing are allowed, and the rooms and corridors are plentifully supplied with heating-apparatus, but, except when actually dressing and undressing, the windows of the bedrooms must be open day and night, in all weathers and in all seasons, and during the day the patients dwell in corridors or summer-houses or altogether out of doors. The results are said to be satisfactory. One point is of much interest. The number of patients whom it is found necessary to confine to their rooms hardly varies in the different seasons, being 8.5 per cent, in the summer and 9.33 per cent, in the winter months. It seems clear, however, that a treatment of this sort, if useful at a health-resort, should be equally applicable to home life and that the lessons taught by it are as important to the healthy as to the sick. If these delicate *poitrinaires* can bear open windows and fresh air, so can people in ordinary health, and there can be no doubt that people would be better in every way if they very much lessened the difference between indoors and outdoors as regards both clothing and fresh air. The lesson to be learned, however, from the Falkenstein treatment is that a certain acclimatization is required, and that what is begun must be persisted in; a man who sleeps with open win-

dows one week and shuts them the next is sure to suffer from disorders of the air-passages.

How to Advertise and Seem Not to Advertise—how to break with the spirit of the law while keeping the letter; how to advertise to the public and make the profession believe one is not advertising—all this is an old problem and an old story. But it is the ever-new problem of the born quack who finds himself among men whose instinctive sense of right makes them non-advertisers both in letter and spirit. The only advantage to be gained by those with the secret itch of self-advertisement is only to be gained while the bulk of the profession will not advertise. The day that the majority of one's fellows enter into competitive advertising, that day the profits sink to zero, or come only to those with the most reckless brazenness and the most unprincipled commercial shrewdness. When but a single horn is blown, the most "delicate and proper" blower is easily heard; but when everyone blows his own instrument, then the toughest lungs and the worst horn drown out the others.

This little homily is suggested by the perusal of an editorial in the *Alienist and Neurologist* for January in which it is contended that the Code itself contains, or should contain, adequate provision for the sly fellows, thus to take advantage of their colleagues by placarding on signs, and by any sort of public announcement, the facts as to their graduation, their specialty, capacity, etc. Especially should the expert in nervous diseases be permitted to "let the public know, in a delicate and proper way," about himself and his expertise. This parenthetic "delicate and proper way" is the acme of humoresque cunning. To do an indelicate and improper thing in a "delicate and proper way" is, to a certain class of minds, the very culmination of ethics.

"It was all very well to dissemble your love,
But why did you kick me down stairs?"

Personalities in the Journal of the American Medical Association.—The announcement in the *Journal of the American Medical Association* for March 31st, that personalities will not [hereafter] be printed, is to be welcomed, but this tardy confession and repentance do not relieve the editor of that journal from responsibility for having published two personal attacks on the same person—and, that, a member who ventured in respectful, if perspicuous, language to criticise its course. Nor are the trustees relieved from the duty of officially repudiating the editorial action in accepting a letter that a well-conducted and self-respecting journal should have consigned, without question, to the waste-basket.

CORRESPONDENCE.

THE MORTALITY OF THE NEGRO.

To the Editor of THE MEDICAL NEWS,

SIR: In THE MEDICAL NEWS of February 3, 1894 (vol. lxiv, No. 5), R. M. Cunningham, of Alabama, in an article entitled "Morbidity and Mortality of Negro Convicts," draws attention to the lessened vitality of the negro in prison, and endeavors to show that the greater

death-rate is due to anatomic and physiologic characteristics that render the negro particularly liable to diseases of the lungs. Subjected to the same environment the adult negro, it is well proven, is less resistant to disease than the adult white.

Northern prisons, in which no distinctions are made on account of color, show a death-rate from two to three times as great for the black man as for the white. In the Eastern Penitentiary, in proportion to their number, the black furnishes three times as many deaths as the white population. In other prisons similar results are shown.

As Dr. Cunningham has proved for Georgia prisons, so it can be shown for other institutions that the negro convict dies more often of tuberculosis than the white convict, though the percentage for the latter, in prison, is usually high. In the Eastern Penitentiary, out of 100,000 white adults 760 will die of pulmonary tuberculosis, and out of 100,000 negroes 3000 will succumb annually to this malady. Thus four times as many colored adults in confinement die of this disease as whites.

If we compare the high mortality of convicts with the mortality in the cities and towns we shall find that, just as in prisons, the negro has a much higher death-rate than the white. The census for 1890 furnishes us with the following data: The death-rate per 100,000 according to race was, for Richmond, Va.: white, 22.65; colored, 40.80. Lynchburg, Va.: white, 13.53; colored, 44.16. Atlanta, Ga.: white, 18.28; colored, 33.57. Birmingham, Ala.: white, 35.15; colored, 53.24. Philadelphia: white, 20.76; colored, 26. Baltimore, white, 20.41; colored, 32. Again, when we analyze the figures we find, according to Dr. Billings, that while in Baltimore 375 white adults out of 100,000 die of tuberculosis, 575 colored adults die of the same disease. In the District of Columbia the figures are 330 for the white and 690 for the colored.

But the most significant fact is the high death-rate among colored children under five years of age. Thus for Baltimore it is 88.22 in 1000 for the white and 197.62 in 1000 for the negro; in Charleston, S. C., 92.34 white, 227.79 colored; in Richmond, Va., 75.27 white, 222.58 colored. If we can explain this high infant mortality it is possible, it seems to me, to explain the higher adult mortality.

The negro, as is well known, usually occupies the poorest quarters of a town or city. The "shanties" of the colored man constituted the slums before the advent of Italian and Russian emigration. With miserable homes are combined ignorance and poverty—a trio responsible for a multitude of diseases, and among them the most fatal ones.

In the early years are sown the seeds of tuberculosis, which require but the confinement of a prison to mature and develop. Glands that were affected in early life enlarge and break down under confinement, and this is but an instance of the latency of the bacillus tuberculosis. The early infection requires some exciting cause, be it a prison, a disease outside of prison, or fatiguing work—whatever depresses the general bodily vigor—and it is fanned into action and lights up into an acute process. If this early environment is responsible for the greater mortality of the negro, as compared with the white, then we should expect to find an increased mor-

tality among the whites who are subject to the same environment. Unfortunately we have no statistics in medicine that take into account social distinctions. Our mortality-statistics are based on political boundaries, and often the millionaire lives in the same district as the pauper. Even sanitary divisions include classes differing widely from each other in home-life and material welfare.

An attempt has been made by the New York Board of Health to collect mortality-rates for various tenement districts. The few figures I have been able to obtain indicate a similar condition among the Italians as among the negro; a mortality-rate among their children of 150 per 1000, while the average death-rate among children under five years of age for the city generally is 93 per 1000.

Where there is overcrowding, inefficient housing, poverty, and ignorance, the death-rate among infants must be high, and if disease is the cause of this death-rate, then tuberculosis pulmonalis must be engendered in many of those who survive the early struggle, remaining in them, ready to show itself when for some reason or other, the vital powers are depressed.

Make the conditions favorable for the negro from childhood up, and then first can we say that he is less capable of withstanding disease than the white man.

The criminal nature of the negro must be viewed in the same light. At present he does furnish a much larger number of convicts than his proportion in the population entitles him to. The negro forms 2.09 per cent. of the population of Pennsylvania, and furnishes 10 per cent. of those committed for trial, and 16 per cent. of all convictions.

In Georgia, the colored population of the prisons is 85 per cent. of the whole, while outside of prison it is but 47 per cent. In Mississippi 60 per cent. of the population generally are colored, and 82 per cent. of the convicts belong to the black race.

Can we discover some anatomic or physiologic something that will explain this characteristic?

In the South, where lynch-law is most commonly dealt out to the negro, we might attempt to ascribe this greater criminality to lack of fair treatment, and prejudice on the part of the white man; but in the North we are supposed to be exempt from this accusation.

In criminal statistics, as in medical statistics, we do not compare classes. The man who is uninfluential, who cannot afford good counsel, who cannot afford to prolong his defence, is more often convicted than the man who is able to obtain these things, irrespective of race-prejudice, and consequently our prisons are crowded with the poor and uninfluential. If the negro is compared with the white man according to social standing, the criminal tendencies may be found to be no greater than the differences in education will explain.

To summarize: I would refer the differences commonly found in the death-rates of the colored race, as compared with the white, to differences in the environment, to the social differences which surround the children, and not to any physical distinctions; at least, until this sociologic factor is studied and taken into account, the so-called hereditary and racial characteristics as witnessed in the adult are liable to lead to wrong conclusions.

We must compare individuals of the same class, in order to obtain proper statistics for medicine as well as for sociology.

M. V. BALL,

Physician to the State Penitentiary
for the Eastern District of Pa.

EPILEPSY OR HYSTERIA?

To the Editor of THE MEDICAL NEWS,

SIR: In the issue of THE MEDICAL NEWS of March 3, 1894, Dr. Howard F. Hansell reports two very interesting cases in which attacks of unconsciousness, resembling epilepsy, were apparently caused by insufficiency of ocular muscles, and were promptly terminated by tenotomy.

Dr. Hansell will surely agree with me in saying that such reports will mislead if they confuse epilepsy with hysteria; for it is a matter of common observation that hysterical attacks are precipitated by the most diverse causes, and often prevented, even for long periods, by any therapeutic measure that sufficiently impresses the mind.

Now, I submit that the diagnosis of epilepsy is not justified by anything recorded of either of these patients. In both cases there is a significant absence of all the unequivocal symptoms of epilepsy. In the first case the eructations of gas following each attack, and the fact that the first seizure occurred under the influence of powerful emotion, constitute strong presumptive evidence of hysteria.

In the second case "the close connection of the periods of unconsciousness with the use of the eyes at the near-point" makes the hysterical nature of the attacks almost certain. It is only in the rarest cases that emotion or painful effort has any causal relation to genuine epilepsy, but it is precisely these things that most commonly precipitate hysterical seizures. If the cases in question are examples of hysteria, it can hardly be maintained that ocular disturbance caused the disease; it was more probably one of the effects.

Yours, very truly,

HOWELL T. PERSHING.

DENVER.

To the Editor of THE MEDICAL NEWS,

SIR: For the benefit of Dr. Pershing and others who may have been inadvertently misled by my use of the word "epilepsy," which twice appears in the notes on Case I, permit me a brief explanation.

Miss R. complained to Dr. McWilliams of epileptic attacks, but neither Dr. McWilliams nor I had seen her during an attack, and therefore had no opportunity to determine their true nature. In describing her symptoms I employed her own language as nearly as possible, and purposely omitted comment. In the case of Miss O. the word "epilepsy" is not mentioned, and it is hardly possible that the symptoms, as detailed, could be construed to indicate that a diagnosis of that disease had been made. The title of the paper was "Two Cases of Functional Nervous Disease, etc.,," and under that heading they can properly be discussed. My main object in publishing the report was to show, by means of the reproduction of the tintypes, the immediate and marked change in the facial expression, and not to state or

imply that two cases of true epilepsy had been cured by tenotomy of the ocular muscles.

Very truly yours,
HOWARD F. HANSELL.

PHILADELPHIA.

MALARIAL INSANITY.

To the Editor of THE MEDICAL NEWS,

SIR: The article of Dr. Edward Anderson, of Rockville, Md., in your issue for March 10th, page 270, recalls to mind several cases that occurred in my practice while located at Boyd's, Md. I was called, July 21, 1882, to see a woman, aged about fifty years, living in the neighborhood of Germantown, situated about eight miles west of Rockville, Md. This patient had been treated (tentatively) for two weeks by another physician. I found her raving, and wild with maniacal excitement, with startled, staring expression of the eyes and quite indifferent as to her surroundings, requiring a number of attendants to restrain and keep her in bed. The house which she occupied stood on a hillside bordering a long meadow or lowlands with an adjacent boggy region. She had been taking quinin, gr. ij, three times a day, with no apparent benefit. I at once put her on quinin, gr. viij, every four hours. This in twenty-four hours calmed the excited condition, and after six days' continuation of the treatment she became convalescent. There was no recurrence of the trouble in the next three years, during which time I had opportunity to observe her.

Another case occurred the following year in the same neighborhood, the patient being a colored man about twenty-four years of age. When I arrived at the cabin a dozen or more stalwart colored men were in attendance, endeavoring to confine him to a cot; he was very wild, and it was with difficulty that he was constrained. During my examination of the case I received an indirect unintentional blow from his arm which I felt quite keenly. Good generous doses of quinin in the course of forty-eight hours changed him into a quiet, well-disposed man. In the family history of neither of these cases was there any trace of mental disturbance, but the malarial poison undoubtedly produced the profound mental effect.

Still another case, with the same cause, but with a different effect, is the following:

I was called, in January, 1883, to see a colored woman, living in a cabin on the banks of a creek, and found her suffering with a severe attack of sciatica from which anodynes of any kind gave no relief, not even large doses of morphin hypodermatically. There was no fever, or symptoms of any kind indicating malaria. After futile attempts for several days I had fifteen grains of quinin administered, which resulted in amelioration of the pain. After this quinin was continued for some time, with no return of the sciatica.

Such cases show not only the peculiar course which disease takes, but that simple causes may produce the most complicated state of affairs.

J. J. COFFMAN.

SCOTLAND, PA.

A BREAD FOR DIABETICS.

To the Editor of THE MEDICAL NEWS,

SIR: The following formula for the preparation of a good and wholesome bread for diabetics is one that I

have used for the past five years with marked satisfaction. Besides being a cheap and palatable bread, it has the advantage of digesting well. Mix one pound of gluten flour with one and a half pounds of "fine shorts." Add four cups of warm water and one yeast-cake. Make a thin batter, salt to taste, and permit the whole to rise over night. Then add a sufficient quantity of "fine shorts" to make the batter stiff, working it up well together for fifteen minutes. Roll and work in a little gluten-flour. Then place the mass behind the oven, and let it rise until cracked and fissured, and the bread is ready for the oven, where it should bake for one hour.

If a whiter bread is desired, more gluten-flour should be added.

Yours truly,

GEORGE F. KOEHLER.

DEKUM BLOCK, PORTLAND, OREGON.

FRACTURES OF THE LOWER END OF THE RADIUS, WITH FORWARD DISPLACEMENT OF THE CARPAL FRAGMENT.

To the Editor of THE MEDICAL NEWS,

SIR: I shall be greatly obliged if you will inform your readers by a short note that I am particularly anxious to know of any cases of fracture of the lower end of the radius, with forward displacement of the carpal fragment. Notes of cases, references to published reports, or information of specimens in museums will be of much interest to me.

Yours truly,

JOHN B. ROBERTS.

1627 WALNUT STREET, PHILADELPHIA.

NEWS ITEMS.

The Association of American Medical Colleges will hold its fifth annual meeting at San Francisco, Cal., June 6, 1894. Action will be taken at this meeting upon the following amendments, to wit:

Rush Medical College, by unanimous vote, submits the following amendment to Sec. 5, Art. III, of the Constitution: "Providing that students who intend to graduate in 1899, or in subsequent classes, four years of medical study and an attendance upon four annual courses of lectures of not less than six months' duration each will be required. Provided, that graduates of literary colleges who have taken a course of scientific studies, graduates of schools of pharmacy that require three years' study and adequate preliminary education, and graduates of dental colleges requiring two years of study and adequate preliminary education, may be admitted to the second year's work or course of lectures in the college without examination."

The present wording of Sec. 5, Art. III, is as follows: "Candidates for the degree of Doctor of Medicine shall have attended three courses of graded instruction of not less than six months' duration each, in separate years."

At a conference held at Chicago, February 7th, the representatives of the twenty colleges represented were unanimously of the opinion that the present requirements of the entrance examination were not sufficiently definite, and directed that the following amendment to Sec. 1, Art. III, be submitted for consideration at the forthcoming session, to be held June 6th: "Colleges, mem-

bers of this Association, shall require of all matriculates an examination as follows: 1. An English composition in the handwriting of the applicant, of not less than two hundred words, said composition to include construction, punctuation, and spelling. 2. Arithmetic—fundamental rules, common and decimal fractions, and ratio and proportion. 3. Algebra—through quadratics. 4. Physics—elementary, Gage. 5. Latin—an amount equal to one year's study, as indicated in Harkness' Latin Reader."

The present wording of Sec. 1, Art. III, is as follows:

"ARTICLE III, SECTION 1. Members of this Association shall require of all matriculates an English composition in the handwriting of the applicant, of not less than two hundred words, an examination by a committee of the faculty, or other lawfully constituted board of examiners, in higher arithmetic, algebra, elementary physics, and Latin prose."

It has been recommended that Sec. 5, Art. III, be amended to read as follows: "Colleges, members of this Association, shall require of all applicants for the degree of M.D. attendance upon three courses of lectures of not less than eight months each, or four courses of six months each, in separate years."

A committee consisting of P. S. Conner, of the Medical College of Ohio; Victor C. Vaughan, of the University of Michigan; Wm. E. Quine, of the College of Physicians and Surgeons of Chicago; N. S. Davis, Jr., of the Chicago Medical College; C. B. Stemen, of the Fort Wayne Medical College, unanimously recommended that the Constitution be amended by the following addition: "Colleges, members of this Association, shall require at least an amount of work in each branch as follows, to wit:

	Hours didactic and recitation.	Hours Laboratory.
Histology and Embryology	50	100
Anatomy	150	300
Physiology and Physiological Chemistry	200	75
Chemistry	125	125
Materia Medica and Therapeutics	125	
Practice	200	
Surgery	200	
Regional and Operative Surgery	50	50
Obstetrics and Gynecology	150	
Ophthalmology and Otology	25	
Mental and Nervous	25	
Dermatology	25	
Bacteriology	25	150
Pathology	50	100
Physical Diagnosis	75	
Pedology	25	
Medical Jurisprudence	15	
Hygiene and State Medicine	50	
Genito-urinary	25	
Orthopedics	25	
Laryngology	25	
Clinical Instruction.		

Mutter Lectureship of the College of Physicians of Philadelphia.—The next course of ten lectures, under the bequest of the late Professor Thomas Dent Mütter, M.D., LL.D., "On Some Point or Points Connected with Surgical Pathology," will be delivered in the winter of 1896-97, before the College of Physicians of Philadelphia. The compensation is \$600. The appointment is open to the profession at large. Applications,

stating subjects of proposed lectures, must be made before July 1, 1894, to William Hunt, M.D., Chairman of Committee on the Mütter Museum, Northeast corner Thirteenth and Locust Streets, Philadelphia, Pa.

Brown-Séquard, the distinguished French physiologist and *savant*, died at Paris on April 2d. He was born on the island of Mauritius April 8, 1817, and graduated in medicine in 1840. In 1858 he delivered a series of six lectures before the College of Surgeons of London. He was for a time, until 1864, physician to the London Hospital for the Paralyzed and Epileptic. From 1864 to 1869 he occupied the chair of Physiology and Pathology of the Nervous System in Harvard College. From 1869 to 1871 he filled a professorship in the School of Medicine of Paris. In 1873 he removed to New York, but he returned to Paris in 1878, succeeding Claude Bernard in the chair of Experimental Medicine in the College of France.

Séquard made numerous and valuable contributions to medical literature, and will always be admired and esteemed for the originality and ingenuity of his researches.

The Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons for 1894 will be delivered at the New York Academy of Medicine on Wednesday evenings, April 4th, 11th, and 18th, at 8 o'clock, by Professor Russell H. Chittenden, Ph.D., of Yale University. Subject: Digestive Proteolysis. I. General Nature of Proteolytic Enzymes; General Nature of Proteids. II. Proteolysis by Pepsin—hydrochloric acid, with a Consideration of the General Nature of Proteoses and Peptones. III. Proteolysis by Trypsin; Absorption of the Main Products of Proteolysis. Members of the profession are cordially invited to be present.

The Philadelphia Pathological Society will hold its semi-annual conversational meeting on Thursday, April 26, 1894, in the upper hall of the College of Physicians building, Thirteenth and Locust Streets. Dr. Simon Flexner, Associate in Pathology in the Johns Hopkins Medical School, will deliver an address entitled "An Experimental Study of the Nature and Action of Certain So-called Tox-albumins." Members of the medical profession are cordially invited to be present.

A Memorial to Semmelweis will be unveiled at Budapest the coming September, on the occasion of the Congress of Hygiene and Demography.

BOOKS AND PAMPHLETS RECEIVED.

A Case of Brain Tumor situated in the Motor Region; Autopsy. By Wharton Sinkler, M.D. Reprinted from the International Medical Magazine, 1892.

Medicine as a Career for Educated Men. The Commencement Address at Lafayette College, June 13, 1893. By William W. Keen, M.D., LL.D. Lafayette Press, Easton, Pa.

Clinical History of a Case of Spindle-celled Sarcoma of the Choroid, with a Study of the Microscopic Condition of the Growth. By Charles A. Oliver, A.M., M.D. Reprinted from the University Medical Magazine, 1894.

Mastoiditis. By Cassius D. Westcott, M.D. Reprinted from the Chicago Medical Recorder, 1893.

Post-mortem Technique. By Ludvig Hektoen, M.D. Chicago: The W. T. Keener Co., 1894.